# HCD-GRX9000/RX900

# SERVICE MANUAL

*East European Model*
*CIS Model*
*HCD-RX900*
*E Model*
*HCD-GRX9000*

Photo: HCD-RX900

HCD-GRX9000/RX900 are the Amplifier, CD player, Tape Deck and Tuner section in MHC-GRX9000/RX900.

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| | | |
|---|---|---|
| CD Section | Model Name Using Similar Mechanism | HCD-H991AV |
| | CD Mechanism Type | CDM38LH-5BD29AL |
| | Base Unit Type | BU-5BD29AL |
| | Optical Pick-up Type | KSS-213D/Q-NP |
| TAPE DECK Section | Model Name Using Similar Mechanism | HCD-GRX7/RX77S |
| | Tape Transport Mechanism Type | TCM-230AWR1/ 230PWR1 |

## SPECIFICATIONS

### Amplifier section

**European and Russian models:**

DIN power output (rated) 125 + 125 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
275 + 275 watts
(8 ohms at 1 kHz, 10% THD)

**Other models:**

The following measured at AC 230 V 50/60 Hz
DIN power output (rated) 130 + 130 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
160 + 160 watts
(8 ohms at 1 kHz, 10% THD)
The following measured at AC 120, 220, 240 V 50/60 Hz
DIN power output (rated) 140 + 140 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)
Peak music power output (reference)
3000 watts

Inputs
MD/VIDEO IN: (phono jacks) voltage 450 mV/250 mV, impedance 47 kilohms
MIX MIC: (phone jack) sensitivity 1 mV, impedance 10 kilohms

Outputs
MD/VIDEO OUT: (phono jacks) voltage 250 mV impedance 1 kilohms
PHONES: (stereo phone jack) accepts headphones of 8 ohms or more
SPEAKER: accepts impedance of 8 to 16 ohms
SUPER WOOFER: Voltage 1 V, impedance 1 kilohm

– Continued on next page –

## MINI Hi-Fi COMPONENT SYSTEM

MICROFILM

SONY®

## CD player section

| | |
|---|---|
| System | Compact disc and digital audio system |
| Laser | Semiconductor laser (λ=780nm)<br>Emission duration: continuous |
| Laser output | Max. 44.6 μW*<br>*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture. |
| Frequency response | 2 Hz – 20 kHz (±0.5 dB) |
| Wavelength | 780 – 790 nm |
| Signal-to-noise ratio | More than 90 dB |
| Dynamic range | More than 90 dB |
| CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel) | |
| Wavelength | 600 nm |
| Output Level | –18 dBm |

## Tape player section

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Frequency response (DOLBY NR OFF) | 40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette<br>40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette |

## Tuner section

FM stereo, FM/AM superheterodyne tuner

### FM tuner section

| | |
|---|---|
| Tuning range | |
| 2 band models: | 87.5 – 108.0 MHz |
| 3 band (FM–MW–SW) models: | 87.5 – 108.0 MHz |
| 3 band (FM–MW–LW) models: | 87.5 – 108.0 MHz |
| 4 band models: | 87.5 – 108.0 MHz |
| Antenna | FM lead antenna |
| Antenna terminals | 75 ohm unbalanced |
| Intermediate frequency | 10.7 MHz |

### UKV tuner section (4 band models only)

| | |
|---|---|
| Tuning range | 65.0 – 74.0 MHz<br>Stereo Plus |

### AM tuner section

| | |
|---|---|
| Tuning range | |
| 2 Band type: | 531 – 1,602 kHz (with the interval set at 9 kHz)<br>530 – 1,710 kHz (with the interval set at 10 kHz) |
| 3 Band/4 Band type: | |
| European and Russian models: | |
| MW: | 531 – 1,602 kHz (with the interval set at 9 kHz) |
| LW: | 153 – 279 kHz (with the interval set at 3 kHz) |
| Middle Eastern models: | |
| MW: | 531 – 1,602 kHz (with the interval set at 9 kHz) |
| SW: | 5.95 – 17.90 MHz (with the interval set at 5 kHz) |
| Other models: | |
| MW: | 531 – 1,602 kHz (with the interval set at 9 kHz)<br>530 – 1,710 kHz (with the interval set at 10 kHz) |
| SW: | 5.95 – 17.90 MHz (with the interval set at 5 kHz) |
| Antenna | AM loop antenna |
| Antenna terminals | External antenna terminal |
| Intermediate frequency | 450 kHz |

## General

| | |
|---|---|
| Power requirements | |
| European and Russian models: | 230 V AC, 50/60 Hz |
| Other models: | 120 V, 220 V or 230 - 240 V AC, 50/60 Hz |
| Power consumption | |
| European and Russian models: | 300 watts |
| Other models: | 330 watts |
| Dimensions (w/h/d) | Approx. 280 x 335 x 380 mm ($13^1/_8$ x $11^1/_8$ x 15 in.) |
| Mass | |
| European and Russian models: | Approx. 11.7 kg (25 lbs. 13 oz.) |
| Other models: | Approx. 12.0 kg (26 lbs. 7 oz.) |
| Supplied accessories: | AM loop antenna (1)<br>Remote RM-SR5 (1)<br>Batteries (2)<br>FM lead antenna (1)<br>Speaker cords (2)<br>Front speaker pads (8) |

Design and specifications are subject to change without notice.

## TABLE OF CONTENTS


**1. SERVICING NOTES** ..... 3

**2. GENERAL**
Location of Controls ..... 6
Setting the Time ..... 7

**3. DISASSEMBLY** ..... 8

**4. TEST MODE** ..... 11

**5. MECHANICAL ADJUSTMENTS** ..... 13

**6. ELECTRICAL ADJUSTMENTS**
DECK Section ..... 13
TUNER Section ..... 16
CD Section ..... 18

**7. DIAGRAMS** ..... 20
7-1. Block Diagram – TUNER Section (East European, CIS models only) – ..... 21
7-2. Block Diagram – CD Section – ..... 23
7-3. Block Diagram – TAPE DECK Section – ..... 25
7-4. Block Diagram – MAIN Section (1/2) – ..... 27
7-5. Block Diagram – MAIN Section (2/2) – ..... 29
7-6. Block Diagram – DISPLAY/KEY CONTROL/ POWER SUPPLY Section – ..... 31
7-7. Note for Printed Wiring Boards and Schematic Diagrams ..... 33
7-8. Printed Wiring Board – TUNER Section (East European, CIS models only) – ..... 34
7-9. Schematic Diagram – TUNER Section (East European, CIS models only) – ..... 35
7-10. Printed Wiring Board – CD Section – ..... 37
7-11. Schematic Diagram – CD Section – ..... 39
7-12. Printed Wiring Boards – CD MOTOR Section – ..... 41
7-13. Schematic Diagram – CD MOTOR Section – ..... 43
7-14. Printed Wiring Board – TAPE DECK Section – ..... 45
7-15. Schematic Diagram – TAPE DECK Section – ..... 47
7-16. Printed Wiring Board – LEAF SW Section – ..... 49
7-17. Schematic Diagram – LEAF SW Section – ..... 49
7-18. Printed Wiring Board – MAIN Section – ..... 51
7-19. Schematic Diagram – MAIN Section (1/4) – ..... 53
7-20. Schematic Diagram – MAIN Section (2/4) – ..... 55
7-21. Schematic Diagram – MAIN Section (3/4) – ..... 57
7-22. Schematic Diagram – MAIN Section (4/4) – ..... 59
7-23. Printed Wiring Board – PANEL Section – ..... 61
7-24. Schematic Diagram – PANEL Section – ..... 63
7-25. Printed Wiring Board – CD-SW Section – ..... 65
7-26. Schematic Diagram – CD-SW Section – ..... 65
7-27. Printed Wiring Board – HP Section – ..... 67
7-28. Schematic Diagram – HP Section – ..... 68
7-29. Printed Wiring Boards – POWER AMP Section – ..... 69
7-30. Schematic Diagram – POWER AMP Section – ..... 71
7-31. Printed Wiring Board – TRANSFORMER Section – ..... 73
7-32. Schematic Diagram – TRANSFORMER Section – ..... 74
7-33. IC Pin Function Description ..... 81

**8. EXPLODED VIEWS** ..... 86

**9. ELECTRICAL PARTS LIST** ..... 95


# SECTION 1
# SERVICING NOTES

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

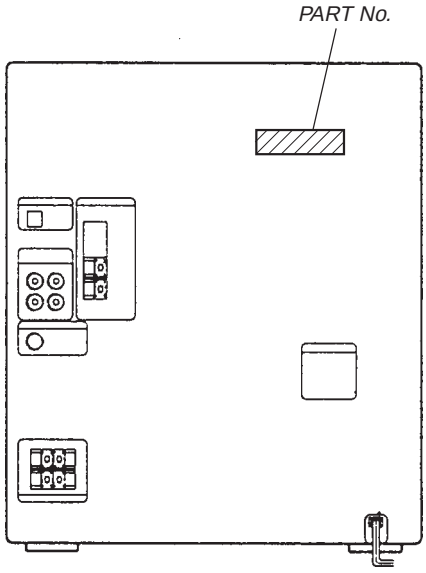
This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

**MODEL IDENTIFICATION**
**– Back Panel –**



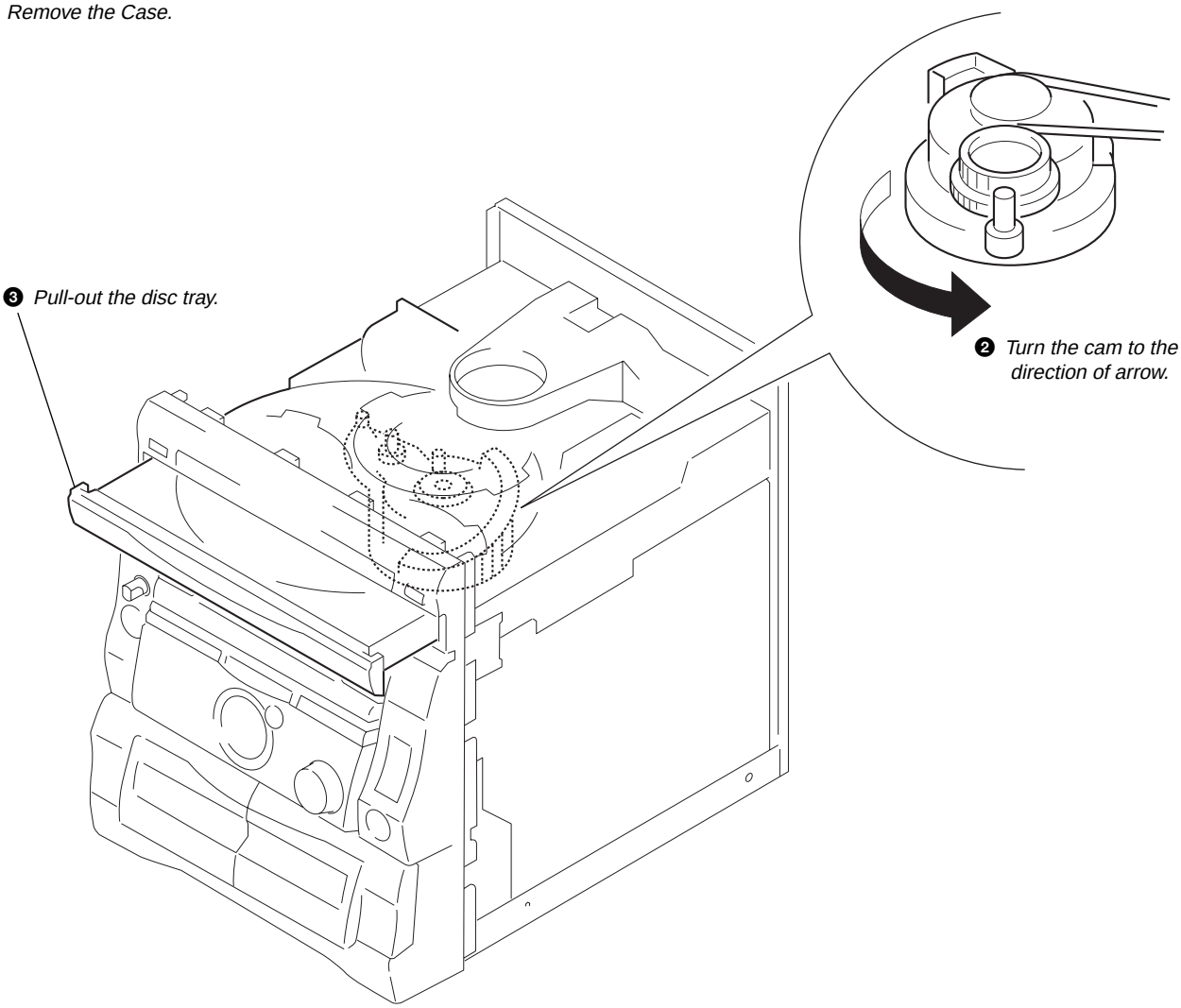

| MODEL | PART No. |
|---|---|
| E model | 4-996-846-0☐ |
| Malaysia, Singapore models | 4-996-846-1☐ |
| Saudi Arabia model | 4-996-846-2☐ |
| East European, CIS models | 4-996-846-5☐ |

**SAFETY-RELATED COMPONENT WARNING!!**

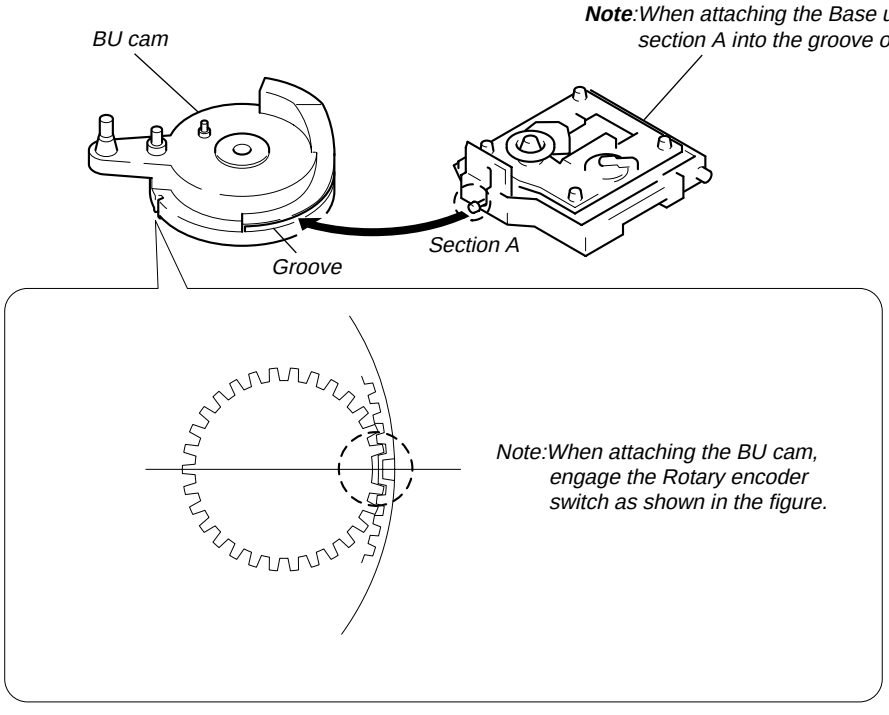
**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

**HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF.**

❶ *Remove the Case.*

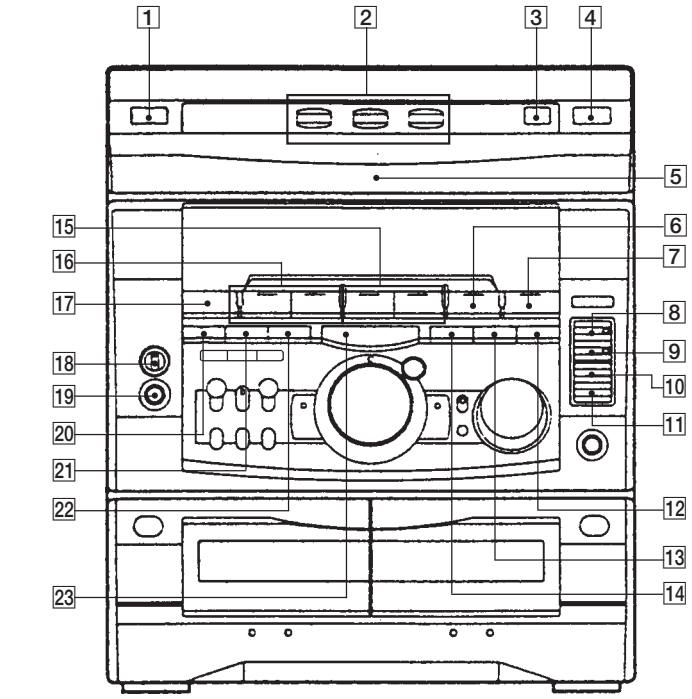



**NOTE FOR INSTALLATION (ROTARY ENCODER)**

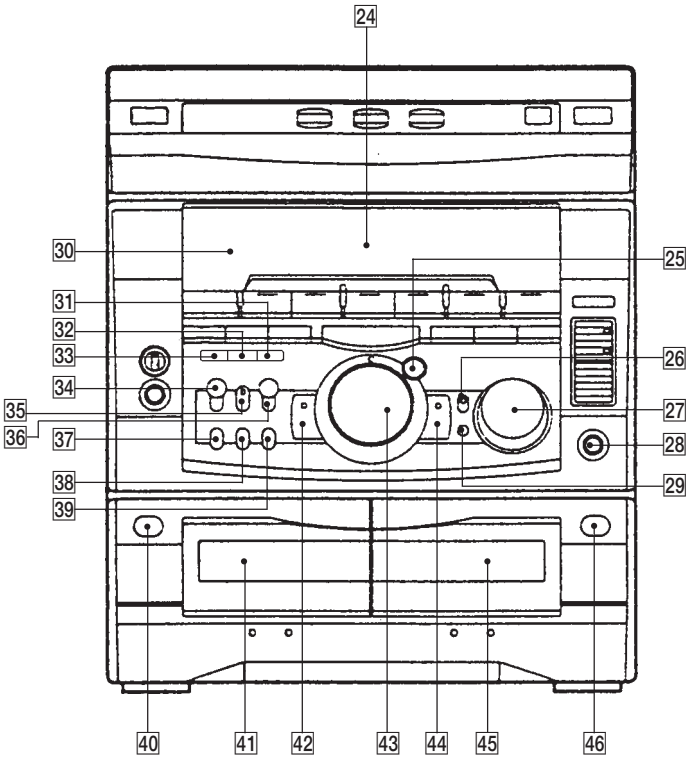

BU cam
***Note***:When attaching the Base unit, Insert the section A into the groove of BU cam.
Groove
Section A
Note:When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

# SECTION 2
# GENERAL

## LOCATION OF CONTROLS




1 I /⏻ (Power) button
2 DISC 1 to 3 buttons and indicators
3 DISC SKIP/EX-CHANGE button
4 ⏏ (CD) button
5 CD disc tray
6 CD ▶II button and indicator
7 TUNER, BAND button
8 ● REC button and indicator
9 II PAUSE button and indicator
10 HI-DUB button
11 CD SYNC button
12 EFFECT button and indicator
13 SURROUND button
14 KARAOKE PON/MPX button
15 TAPE B ◄ and ► buttons and indicators
16 TAPE A ◄ and ► buttons and indicators
17 FUNCTION button
18 MIC LEVEL knob
19 MIX MIC jac
20 DISPLAY/DEMO button
21 CLOCK/TIMER SET button
22 TIMER SELECT button
23 ■ button



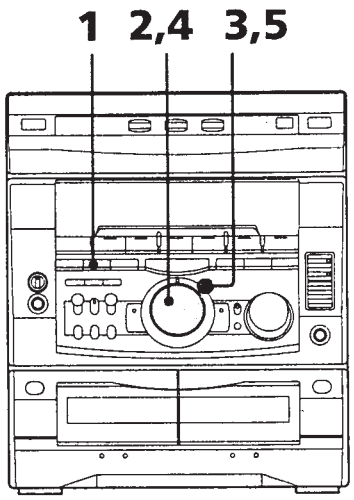

24 Fluorescent indicator tube
25 ENTER/NEXT button and indicator
26 GROOVE button and indicator
27 VOLUME konb
28 PHONES jack
29 DBFB button
30 Remote sensor
31 P FILE MEMORY button
32 GEQ CONTROL button
33 FILE SELECT button
34 LOOP button
35 NON-STOP button and indicator
36 FLASH button
37 EDIT, DIRECTION button
38 PLAY MODE, DOLBY NR button
39 REPEAT button
40 ⏏ button (deck A)
41 Tape deck A
42 –, ◄◄ button and indicator
43 JOG dial
44 +, ►► button and indicator
45 Tape deck B
46 ⏏ button (deck B)

# Step 2: Setting the time

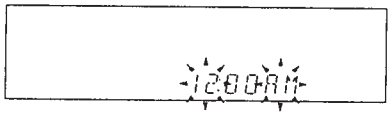
You must set the time before using the timer functions.

The clock is on a 24-hour system for the European and Russian models, and a 12-hour system for other models.

The 12-hour system model is used for illustration purposes.

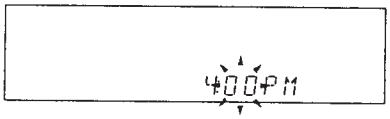



**1** Press CLOCK/TIMER SET.
The hour indication flashes.




**2** Turn the jog dial to set the hour.

**3** Press ENTER/NEXT.
The minute indication flashes.




**4** Turn the jog dial to set the minute.

**5** Press ENTER/NEXT.
The clock starts working.

### Tips

- If you've made a mistake, start over from step 1.
- Setting the time deactivates the demo mode. If you want to display the demo mode, press DISPLAY/DEMO when the power is off.

### Note

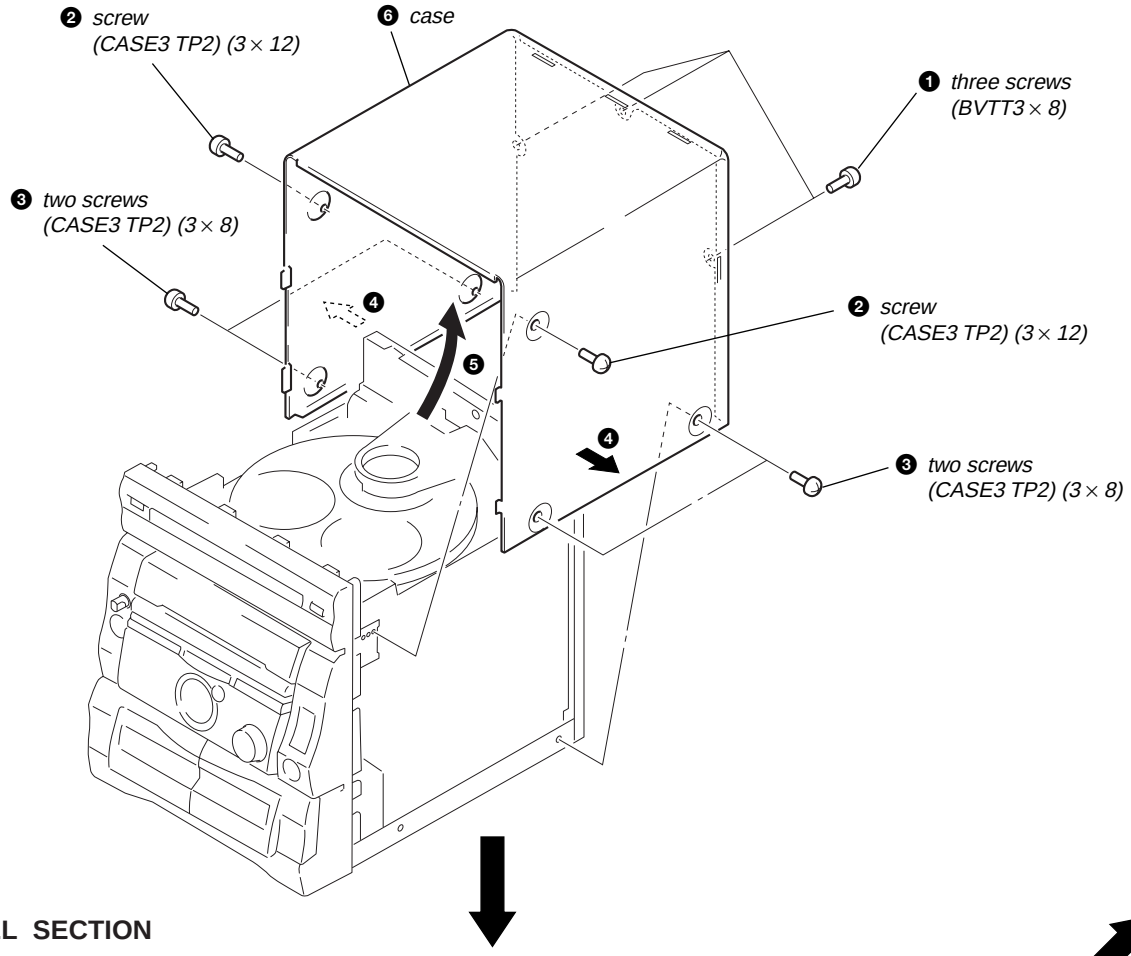
The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

1 Press CLOCK/TIMER SET.
2 Turn the jog dial to select SET CLOCK.
3 Press ENTER/NEXT.
4 Perform steps 2 through 5 above.

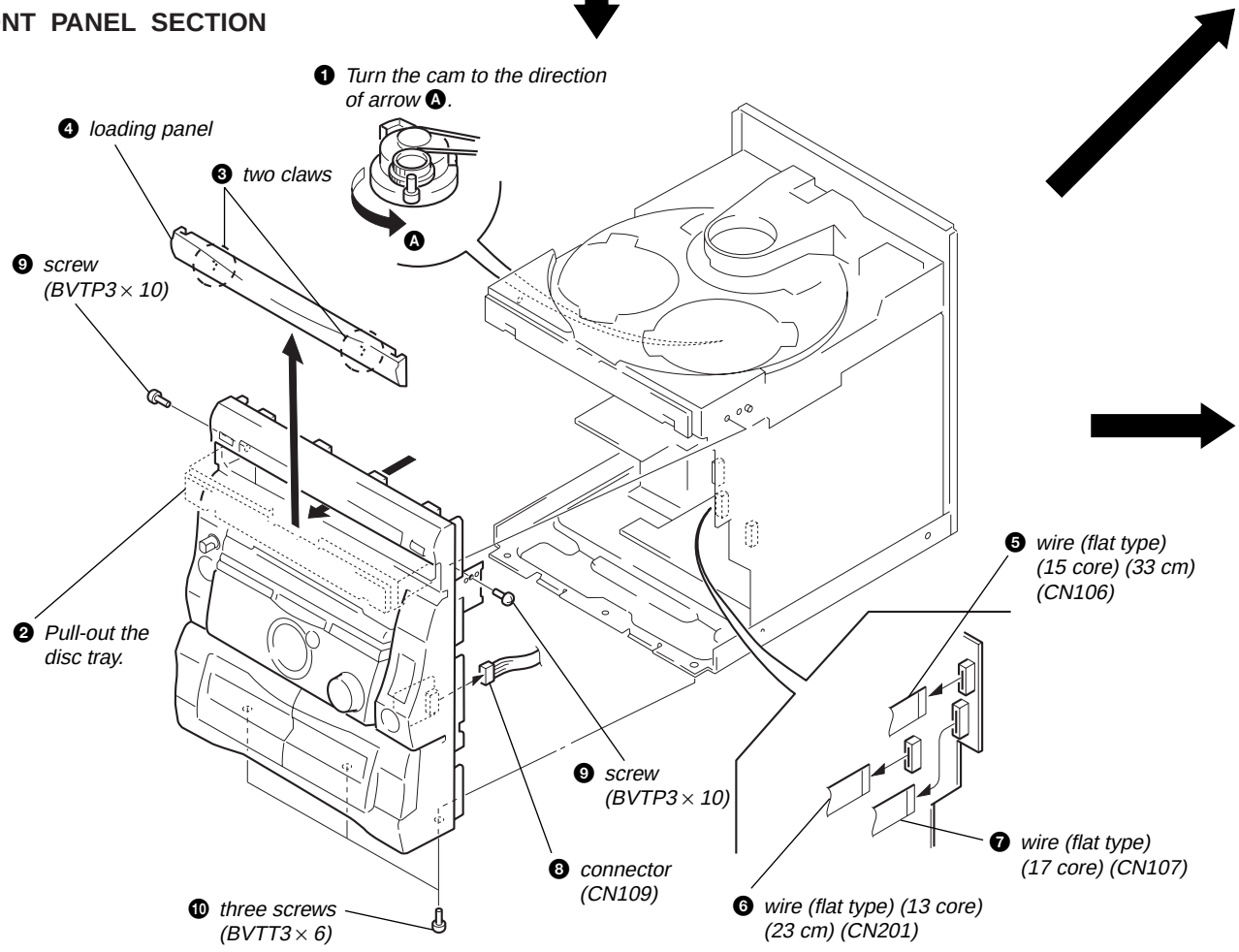
# SECTION 3
# DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

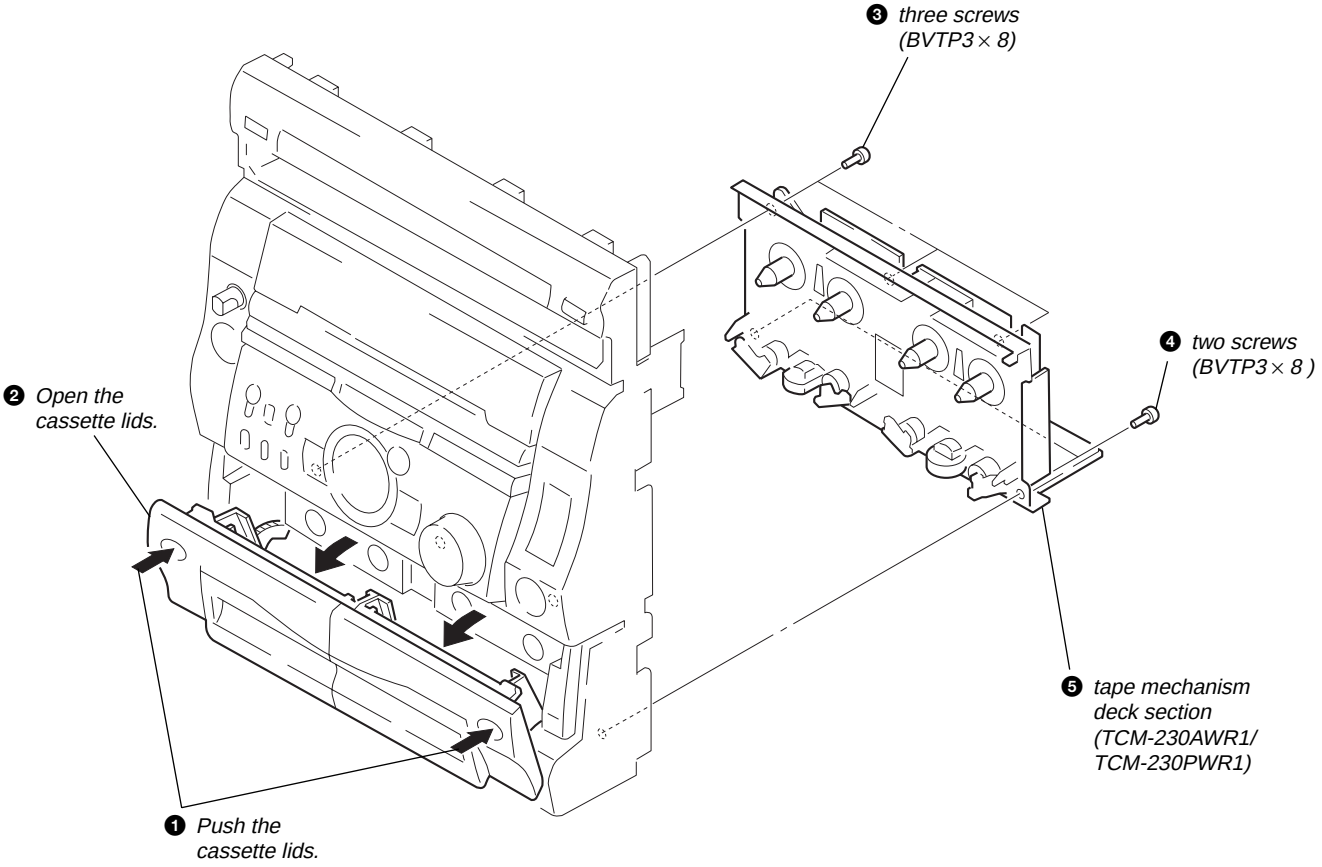
## CASE



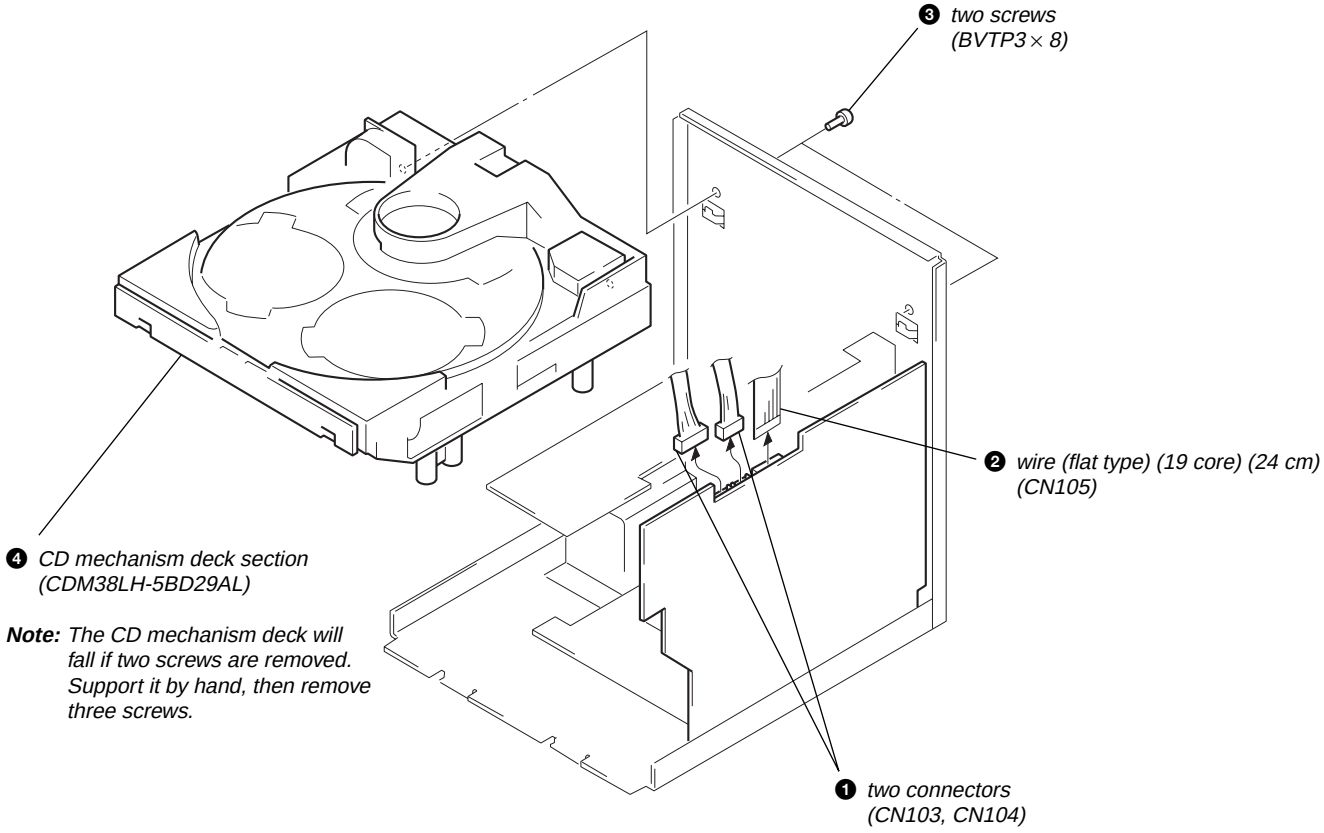

## FRONT PANEL SECTION



## TAPE MECHANISM DECK SECTION (TCM-230AWR1/TCM-230PWR1)

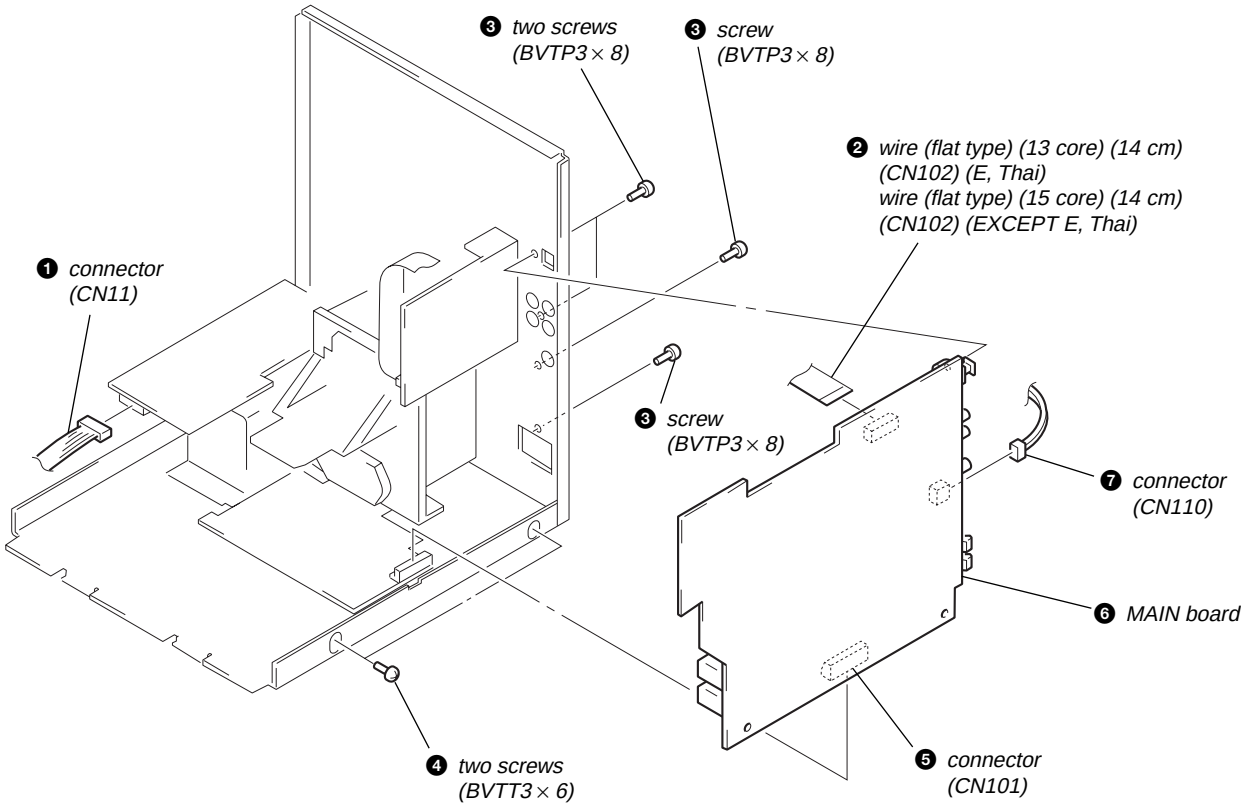

❸ three screws (BVTP3 × 8)
❹ two screws (BVTP3 × 8 )
❷ Open the cassette lids.
❺ tape mechanism deck section (TCM-230AWR1/ TCM-230PWR1)
❶ Push the cassette lids.

## CD MECHANISM DECK SECTION (CDM38LH-5BD29AL)


❸ two screws (BVTP3 × 8)
❷ wire (flat type) (19 core) (24 cm) (CN105)
❹ CD mechanism deck section (CDM38LH-5BD29AL)
❶ two connectors (CN103, CN104)

***Note:*** *The CD mechanism deck will fall if two screws are removed. Support it by hand, then remove three screws.*

**MAIN BOARD**


❸ two screws (BVTP3 × 8)
❸ screw (BVTP3 × 8)
❷ wire (flat type) (13 core) (14 cm) (CN102) (E, Thai)
wire (flat type) (15 core) (14 cm) (CN102) (EXCEPT E, Thai)
❶ connector (CN11)
❸ screw (BVTP3 × 8)
❼ connector (CN110)
❻ MAIN board
❹ two screws (BVTT3 × 6)
❺ connector (CN101)

# SECTION 4
# TEST MODE

### [MC Cold Reset]

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

**Procedure:**

1. Press three buttons ■ , ENTER/NEXT, and I/⏻ simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [CD Delivery Mode]

• This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

**Procedure:**

1. Press I/⏻ button to turn the set ON.
2. Press LOOP button and I/⏻ button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

### [MC Hot Reset]

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

**Procedure:**

1. Press three buttons ■ , ENTER/NEXT, and DISC 1 simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [Sled Servo Mode]

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

**Procedure:**

1. Press I/⏻ button to turn the set ON.
2. Select the function "CD".
3. Press three buttons ■ , ENTER/NEXT, and ⏏ simultaneously.
4. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
5. With the CD in stop status, press ▶▶ + button to move the pickup to outside track, or – ◀◀ button to inside track.
6. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press three buttons in the same manner as step 3.

**Note:** • Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

### [Change-over of FUNCTION Name]

• The FUNCTION name of external input terminal can be changed over to "VIDEO" of "MD".

**Procedure:**

1. Press I/⏻ button to turn the set OFF.
2. Press I/⏻ button together with FUNCTION button, and the power is turned on, the display of fluorescent indicator tube changes to "MD" of "VIDEO" instantaneously, and thus the FUNCTION is changed over.

### [Change-over of AM Tuner Step between 9 kHz and 10 kHz]

• A step of AM channels can be changed over between 9 kHz and 10 kHz.

**Procedure:**

1. Press I/⏻ button to turn the set ON.
2. Select the function "TUNER", and press TUNER/BAND button to select the BAND "AM".
3. Press I/⏻ button to turn the set OFF.
4. Press ENTER/NEXT and I/⏻ buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9 k STEP" or "AM 10 k STEP", and thus the channel step is changed over.

### [Change-over of LW Tuner Step between 1 kHz and 3 kHz]

• A step of LW channels can be changed over between 1 kHz and 3 kHz.

**Procedure:**

1. Press I/⏻ button to turn the set ON.
2. Select the function "TUNER", and press TUNER/BAND button to select the BAND "LW".
3. Press I/⏻ button to turn the set OFF.
4. Press ENTER/NEXT and I/⏻ buttons simultaneously, and the display of fluorescent indicator tube changes to "LW 1 k STEP" or "LW 3 k STEP", and thus the channel step is changed over.

### [LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

**Procedure:**

1. Press three buttons ■ , ENTER/NEXT, and DISC 2 simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press DISC 2 button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 J0 V0". Each time a button is pressed, "K" value increases. However, once a button is pressed, it is no longer taken into account.
   "J" value increases like 1, 2, 3 ... if rotating JOG knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
   "V" value increases like 1, 2, 3 ... if rotating VOLUME knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

**[Aging Mode]**

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:
  The aging operation stops and display status.
- If no error occurs:
  The aging operation continues repeatedly.

1. Operating Method of Aging Mode

1) Set disc in DISC1 tray.
2) Load the tapes recording use into the decks A and B respectively.
3) Press three buttons [■] , [ENTER/NEXT], and [DISC SKIP/EX-CHANGE] simultaneously.
4) The aging mode is activated, if a CD roulette mark on the fluorescent indicator tube is blinking.
5) To exit from the aging mode, press [I/⏻] button to turn the set OFF.

2. Operation Sequence

- During the aging mode in the following sequence to below.
- Starting the CD section aging for function set “CD”, starting the TAPE section (deck A) aging for function set “TAPE A” or “TAPE B”. (Set another function is no work.)

CD (disc1) (12 minutes) → Deck A
↑ ↓ (Maximum about
Deck B 12 minutes)

3. Aging mode in CD section

1) Display state

- No error occurs

display

[*][*] 1 – [@][@]

**Note:**

[*][*] : a letter “CD” and the remainder time (minute) alternately. (remainder time start from 12 minute)
[@][@] : track number in access.

- Error occurred

| NO. | Display | Main factor |
|---|---|---|
| 1 | NO DISC ERR | Not set disc in DISC1 |
| 2 | FOCUS1 ERR | Focus does not work |
| 3 | FOCUS2 ERR | Focus does not work after the disc rotate as usual |
| 4 | GFS ERR | GFS error |
| 5 | FBIAS ERR | Error in to the focus bias adjustment |
| 6 | SENSOR ERR | Disc sensor sens DISC1 is no disc |
| 7 | TABLE ERR | CD tray lotate does not work |
| 8 | TRAY ERR | Tray (include BD) move does not work |

2) Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

(1) The CD tray rotates and disc 1 is selected.
(2) Chucking is performed.
(3) TOC is read.
(4) Track 1 played back for 8 seconds.
(5) The CD tray opens and closes again.
(6) 1 to 5 is repeated.
(7) After 12 minutes of aging, aging is switched to the tape deck.

4. Aging mode in Tape Deck section

1) Display state

- No error occurs
  Display action now
- Error occurred
  Display action last time

| NO. | Display action | Action contents | Final timing |
|---|---|---|---|
| 1 | TAPE A AG-1 | Rewind the TAPE A | The top of tape |
| 2 | TAPE A AG-2 | FWD play the TAPE A | 2 minutes playing |
| 3 | TAPE A AG-3 | F.F. the TAPE A | First either 20 seconds or the end of tape |
| 4 | TAPE A AG-4 | REV play the TAPE A | 2 minutes playing |
| 5 | TAPE A AG-5 | Rewind the TAPE A | The top of tape |
| 6 | TAPE B AG-1 | Rewind the TAPE B | The top of tape |
| 7 | TAPE B AG-2 | FWD play the TAPE B | 2 minutes playing |
| 8 | TAPE B AG-3 | F.F. the TAPE B | First either 20 seconds or the end of tape |
| 9 | TAPE B AG-4 | REV play the TAPE B | 2 minutes playing |
| 10 | TAPE B AG-5 | Rewind the TAPE B | The top of tape |

2) Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

(1) The tape in deck A is rewound to the head.
(2) The FWD side is played back for 2 minutes.
(3) The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
(4) The REV side is played back for 2 minutes.
(5) The tape is rewound to the head (REW).
(6) The tape in deck B is rewound to the head.
(7) The FWD side is played back for 2 minutes.
(8) The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
(9) The REV side is played back for 2 minutes.
(10) The tape is rewound to the head (REW).
(11) Aging is switched to the CD player.

# SECTION 5
# MECHANICAL ADJUSTMENTS

**Precaution**

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Mode | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 31 to 71 g • cm (0.43 – 0.98 oz • inch) |
| FWD back tension | CQ-102C | 2 to 6 g • cm (0.03 – 0.08 oz • inch) |
| REV | CQ-102RC | 31 to 71 g • cm (0.43 – 0.98 oz • inch) |
| REV back tension | CQ-102RC | 2 to 6 g • cm (0.03 – 0.08 oz • inch) |
| FF/REW | CQ-201B | 71 to 143 g • cm (0.99 – 1.99 oz • inch) |
| FWD tension | CQ-403A | 100 g or more (3.53 oz or more) |
| REV tension | CQ-403R | 100 g or more (3.53 oz or more) |

# SECTION 6
# ELECTRICAL ADJUSTMENTS

**DECK SECTION** 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

• Test Tape

| Tape | Signal | Used for |
|---|---|---|
| P-4-A100 | 10 kHz, –10 dB | Azimuth Adjustment |
| WS-48B | 3 kHz, 0 dB | Tape Speed Adjustment |
| P-4-L300 | 315 Hz, 0 dB | Level Adjustment |

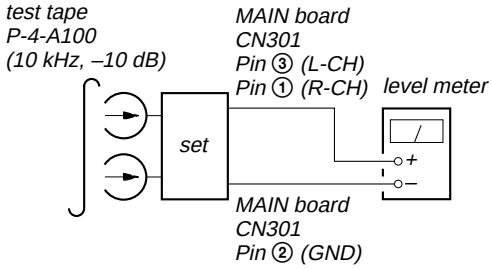
### Record/Playback Head Azimuth Adjustment

**DECK A** **DECK B**

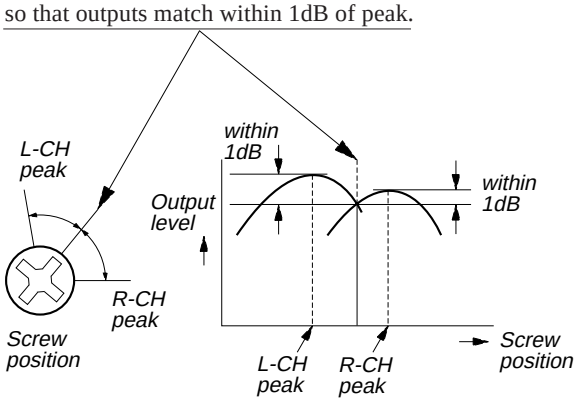
**Note:** Perform this adjustments for both decks

**Procedure:**

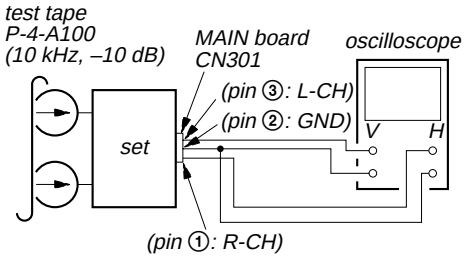
1. Mode: Playback (FWD)

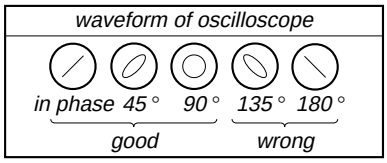


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



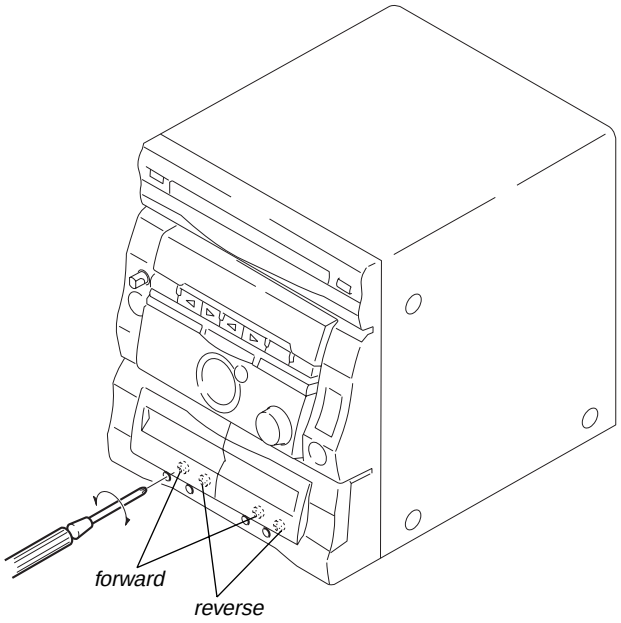

3. Mode: Playback (FWD)




4. Repeat setps 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the pats adjusted.

**Adjustment Location:** Playback Head (Deck A).
Record/Playback/Erase Head (Deck B).



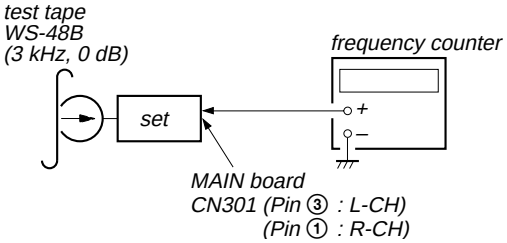

## Tape Speed Adjustment DECK B

**Note:** Start the Tape Speed adjustment as below after setting to the test mode.
In the test mode, the tape speed is high during pressing the HI-DUB button.

**Procedure:**

1. Turn the power switch on.
2. Press the ■ button, ENTER/NEXT button and DISC 3 button simultaneously.
(The "VOLUME" on the fluorescent indicator tube will blink while in the test mode.)
To exit from the test mode, press the I/⏻ button.

Mode: Playback




1. Insert the WS-48B into the deck B.
2. Press the ▷ button on the deck B.
3. Press the HI-DUB button in playback mode.
Then at HIGH speed mode.
4. Adjust RV1001 on the LEAF SW board do that frequency counter reads 6,000 ± 180 Hz.
5. Press the HI-DUB button.
Then back to NORMAL speed mode.
6. Adjust RV1002 on the LEAF SW board so that frequency counter reads 3,000 ± 90 Hz.

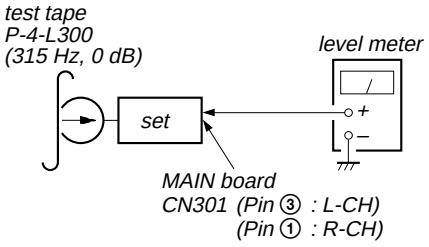
**Adjustment Location:** LEAF SW board

**Sample value of Wow and Flutter:** 0.3% or less W.RMS (JIS)
(WS-48B)

## Playback level Adjustment DECK A DECK B

**Procedure:**

Mode: Playback




Deck A is RV311 (L-CH) and RV411 (R-CH), Deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

**Adjustment Level:**

CN301 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ± 0.5 dB

**Adjustment Location:** AUDIO board

## REC Bias Adjustment DECK B

**Procedure:**

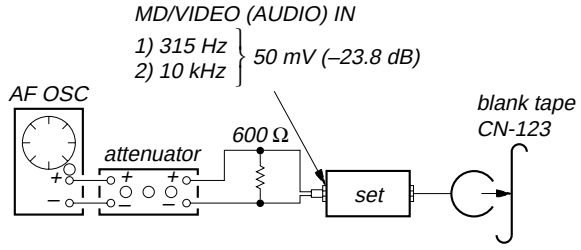
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

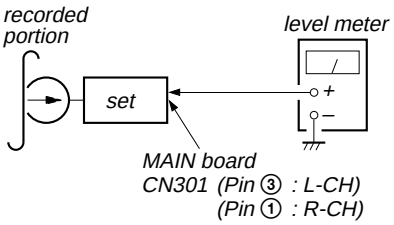
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press [● REC] button, press [❚❚] button, then recording start.
4. Mode: Record




5. Mode: Playback




6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 4 and 5.

**Adjustable level:** Playback output of 315 Hz to playback output of 10 kHz: ± 1.0 dB

**Adjustment Location:** AUDIO board

## REC Level Adjustment DECK B

**Procedure:**

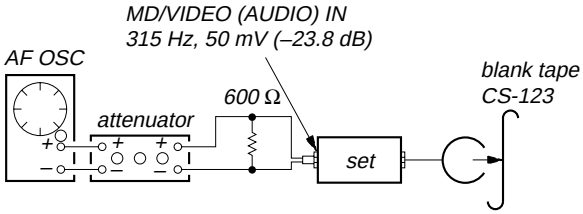
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

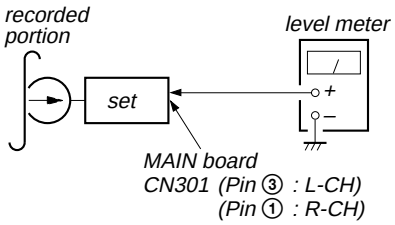
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press [● REC] button, press [❚❚] button, then recording start.
4. Mode: Record




5. Mode: Playback




6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 4 and 5.

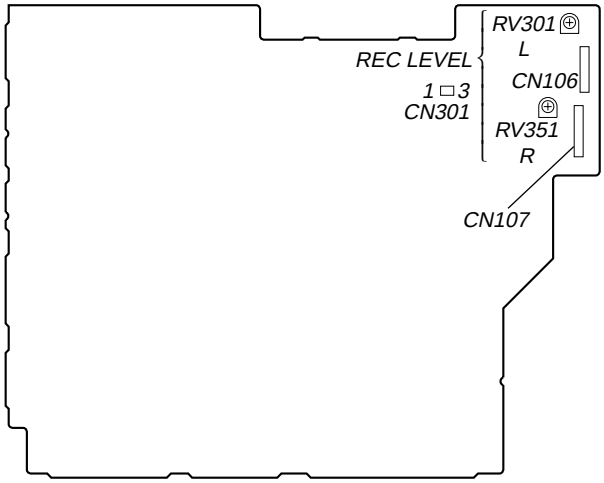
**Adjustable level:**

CN301 PB level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

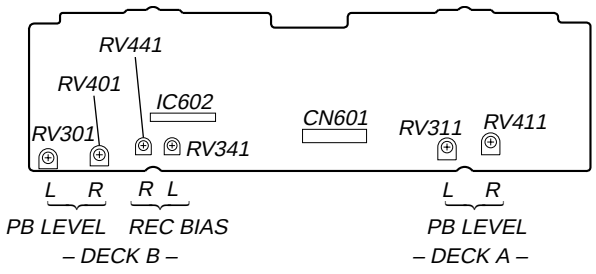
**Adjustment Location:** MAIN board

**Adjustment Location:**

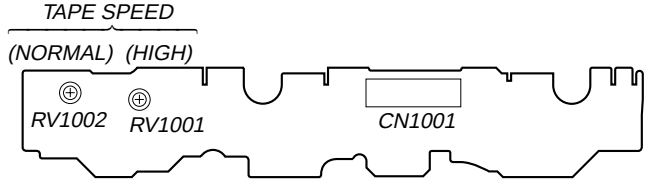
**[MAIN BOARD]** (Component Side)




**[AUDIO BOARD]** (Component Side)




**[LEAF SW BOARD]** (Component Side)



## TUNER SECTION | 0 dB=1 µV

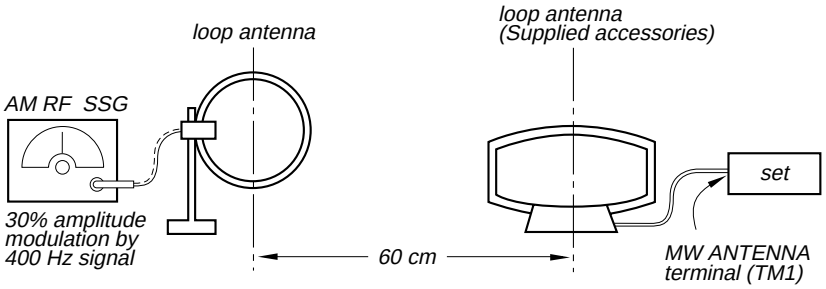
**(East European, CIS models only)**

**Note:** As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

### MW Section Adjustment

**Note:** FM Tuned Level Adjustment should be performed after this MW Tuned Level Adjustment.

**Setting:**




*Field strength dB (µV/m) =SSG output level dB (µV/m) –26 dB.*

### MW Tuned Level Adjustment

Band: MW

**Procedure:**

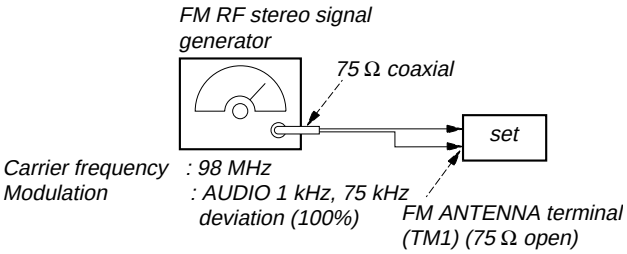
1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 1,050 kHz.
3. Adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

**Adjustment Location :** TCB board

### FM Section Adjustment

**Note:** This adjustment should be performed after the MW Tuned Level Adjustment due to the same adjustment element.

**Setting:**




### FM Tuned Level Adjustment

Band: FM

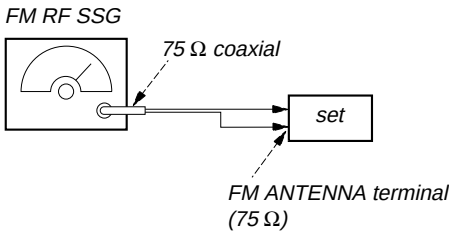
**Procedure:**

1. Supply a 25 dBµ 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. If the TUNED indicator does not light, adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

**Adjustment Location:** TCB board

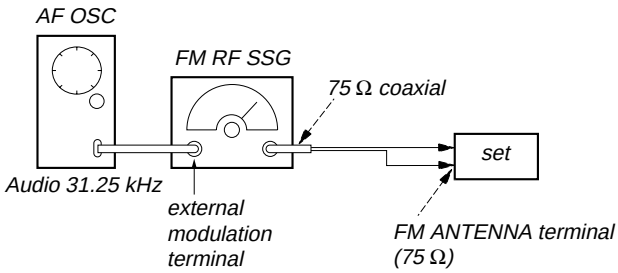
**FM Polar Adjustment**

**Connection 1:**




*Carrier frequency : 69 MHz*
*Output level : 1mV (60dBμ) (at 75 Ω open)*
*Modulation : AUDIO 1 kHz, 10kHz deviation*

**Connection 2:**



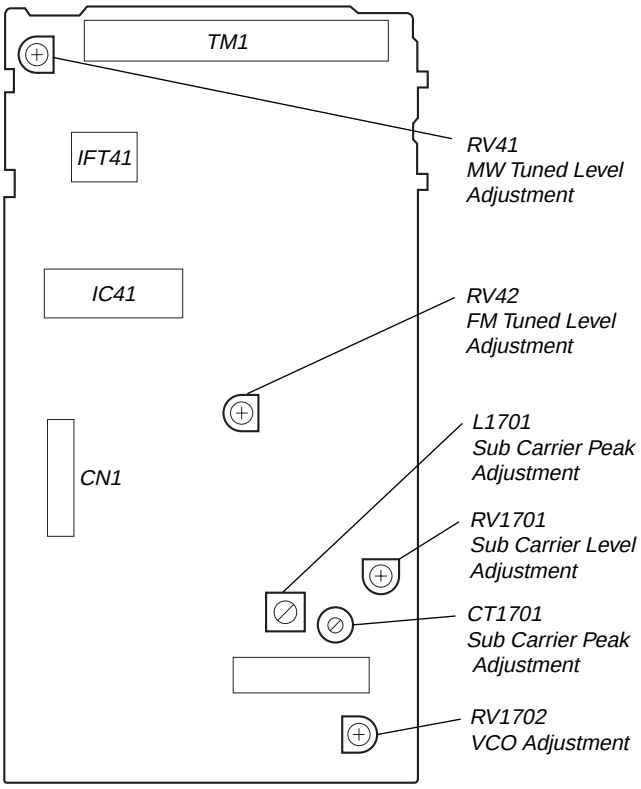

*Carrier frequency : 69 MHz*
*Output level : 1mV (60 dBμ) (at 75 Ω open)*
*Modulation : AUDIO 31.25 kHz, 10 kHz deviation*
*(EXTERNAL MODULATION)*

**Procedure :**

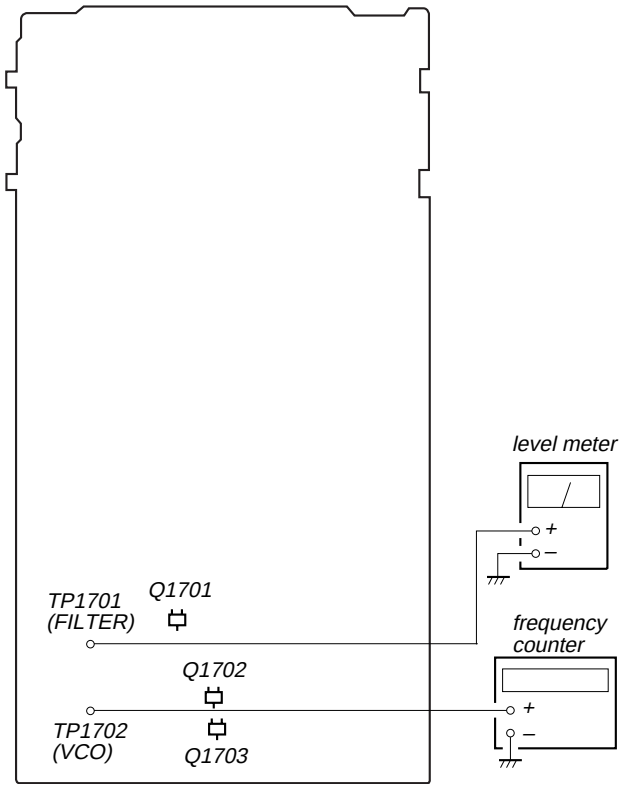
1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to "Connection 1".
2. Tune the set to 69 MHz.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 becomes within 31.25 kHz ± 0.05 kHz. (VCO Adjustment)
4. Then record the reading of the level meter connected to TP1701
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to "Connection 2".
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 become maximum.
   Then adjust the CT1701 so that the reading of the level meter connected to TP1701 becomes maximum. (SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14dB higher value than the level recorded in step 4. (SUB CARRIER LEVEL Adjustment)

**Adjustment Location :**

**[TCB BOARD]** (Component Side)




**[TCB BOARD]** (Conductor Side)

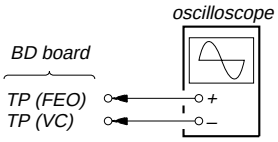


## CD SECTION

**Note:**

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

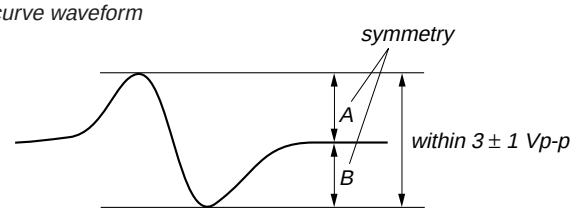
### S Curve Check




**Procedure:**

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (Actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

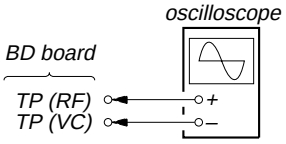
*S-curve waveform*




6. After check, remove the lead wire connected in step 2.

**Note:** • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check

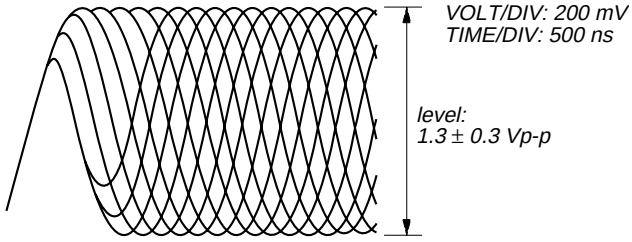



**Procedure:**

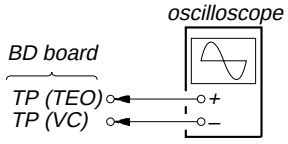
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:** Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

- **FR signal**




### E-F Balance (Traverse) check (Without remote commander)

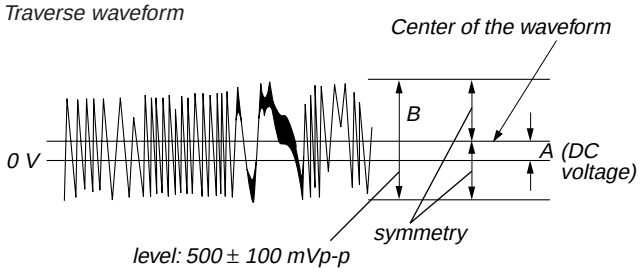



**Procedure:**

1. Connect oscilloscope to test point TP (TEO) on BD board.
2. Turned Power switch on. Press FUNCTION button to select CD.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the ■ button, ENTER/NEXT button and ▶II button simultaneously several times to fluorescent indicator tube display "SHUFFLE" is blink. (The sledding servo is turned OFF.)
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following:

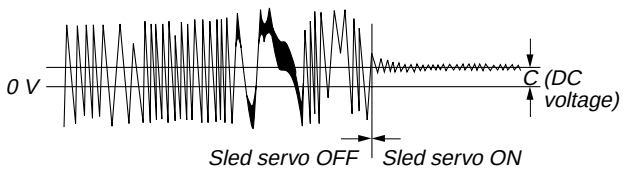
$$\frac{A}{B} \times 100 = \text{less than } \pm 7\ (\%)$$

*Traverse waveform*



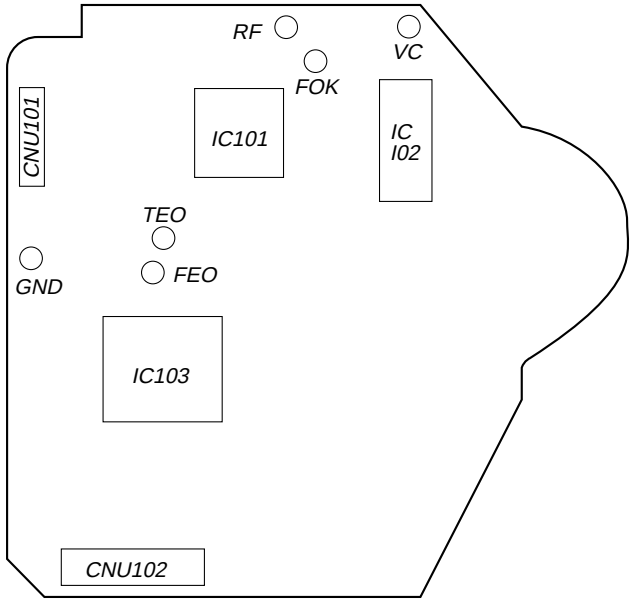

6. Press the ■ button, ENTER/NEXT button and ▶II button simultaneously several times to fluorescent indicator tube display "SHUFFLE" is OFF. (The sleding servo is turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 5.

*Traverse waveform*



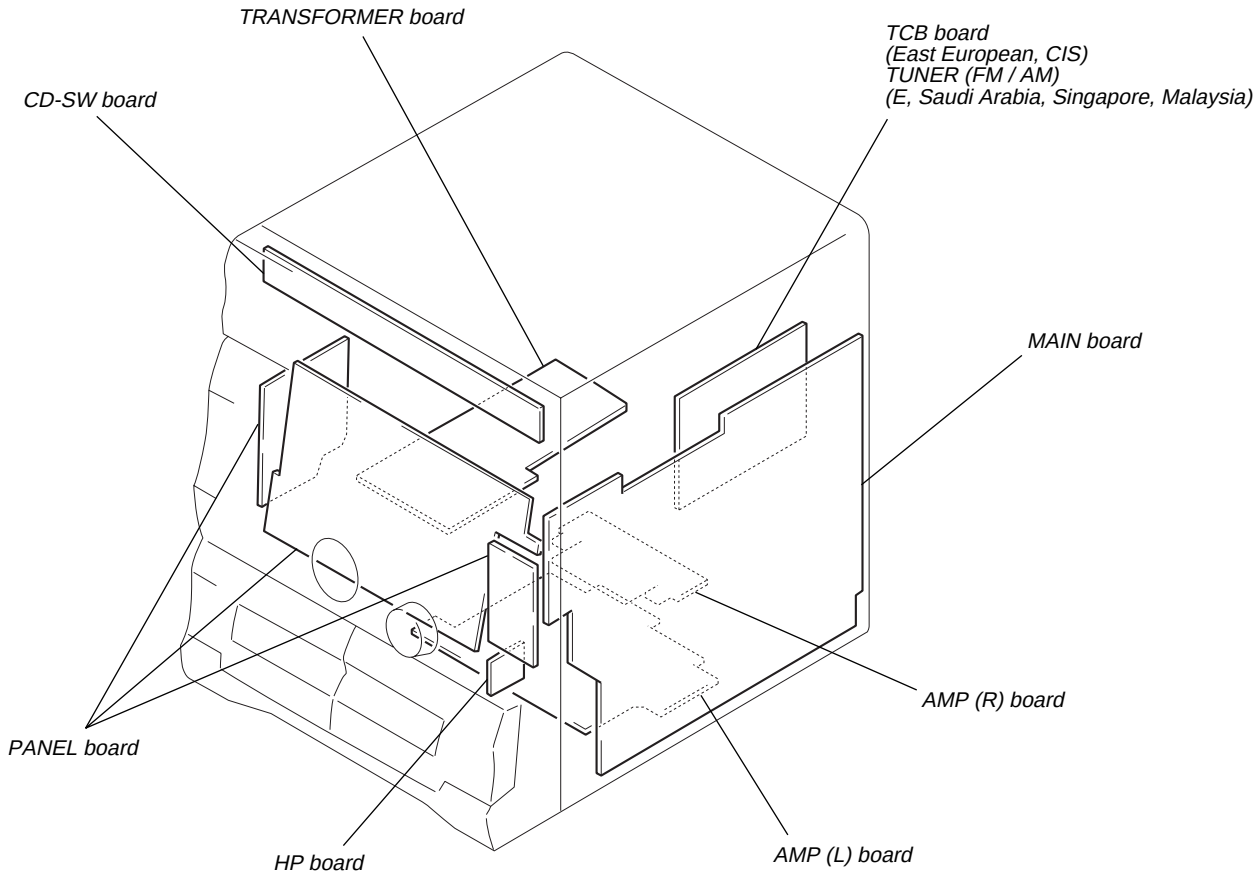
**Adjustment Location:**

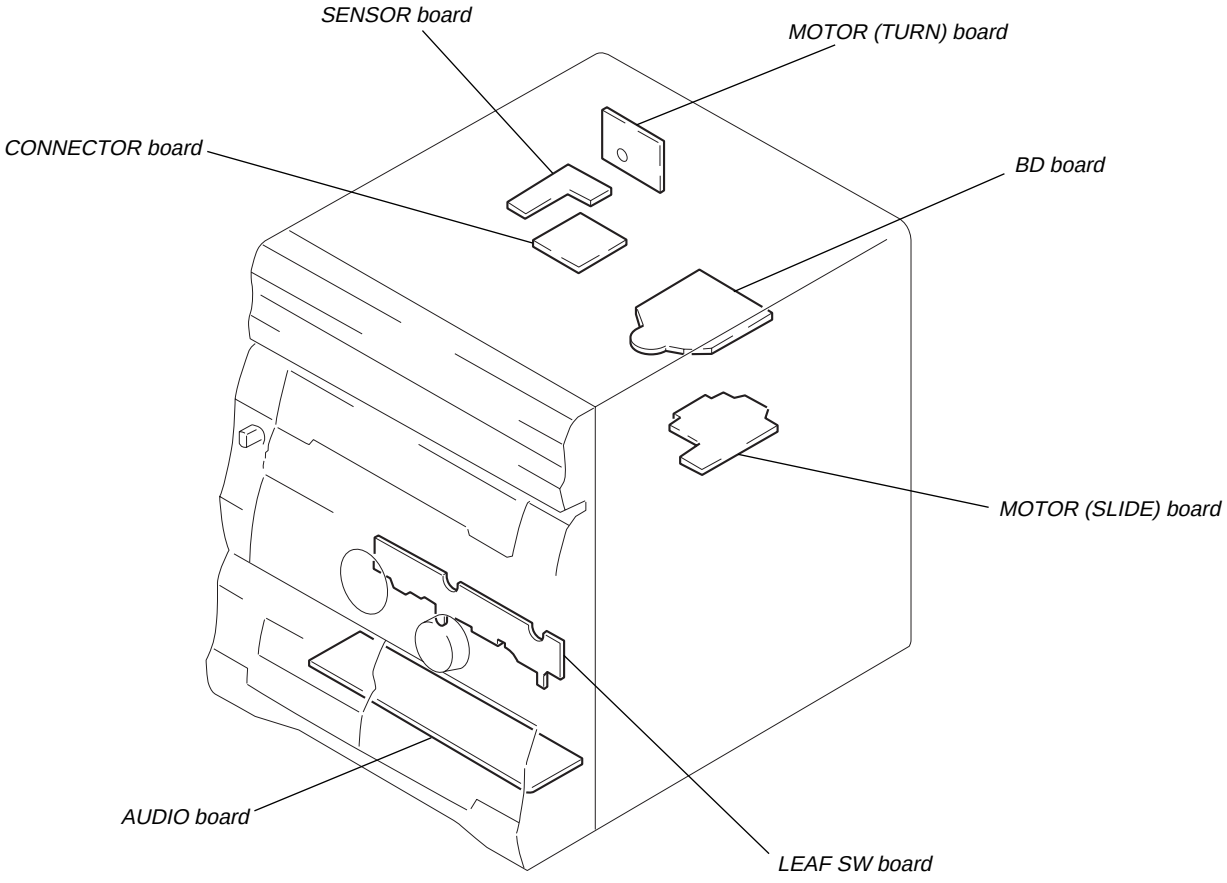
**[BD BOARD]** (Conductor Side)



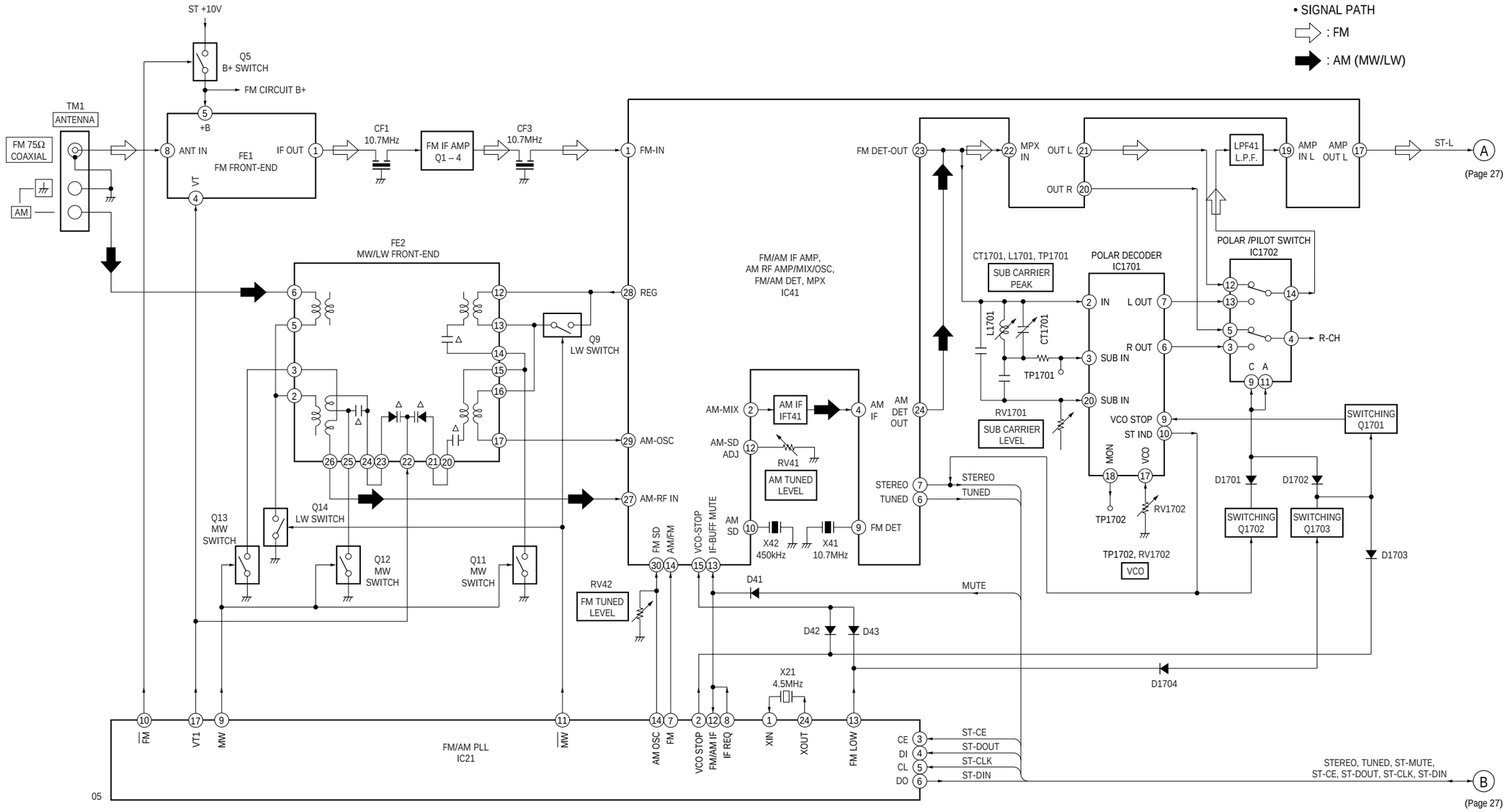
# SECTION 7
# DIAGRAMS

- **Circuit Boards Location**

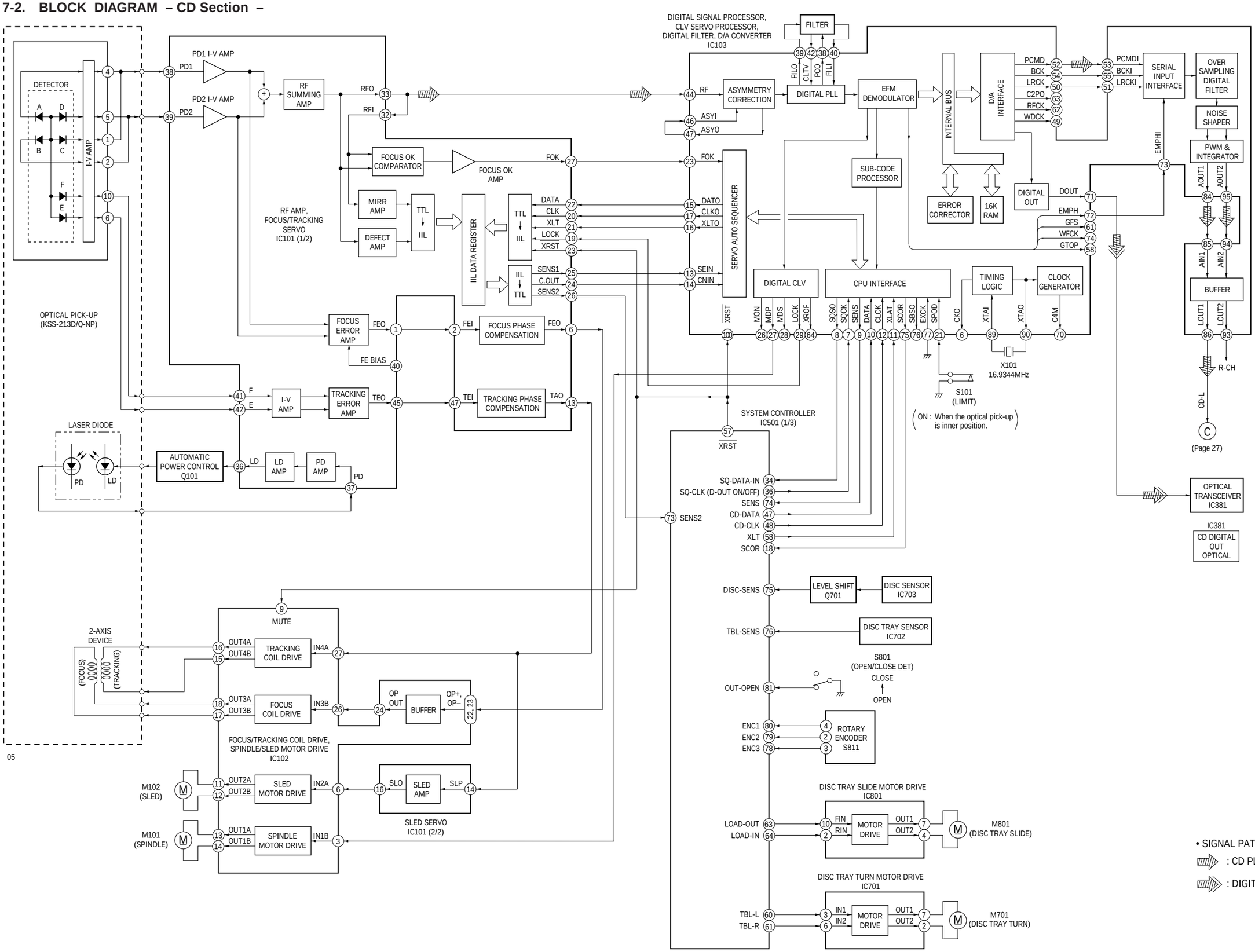


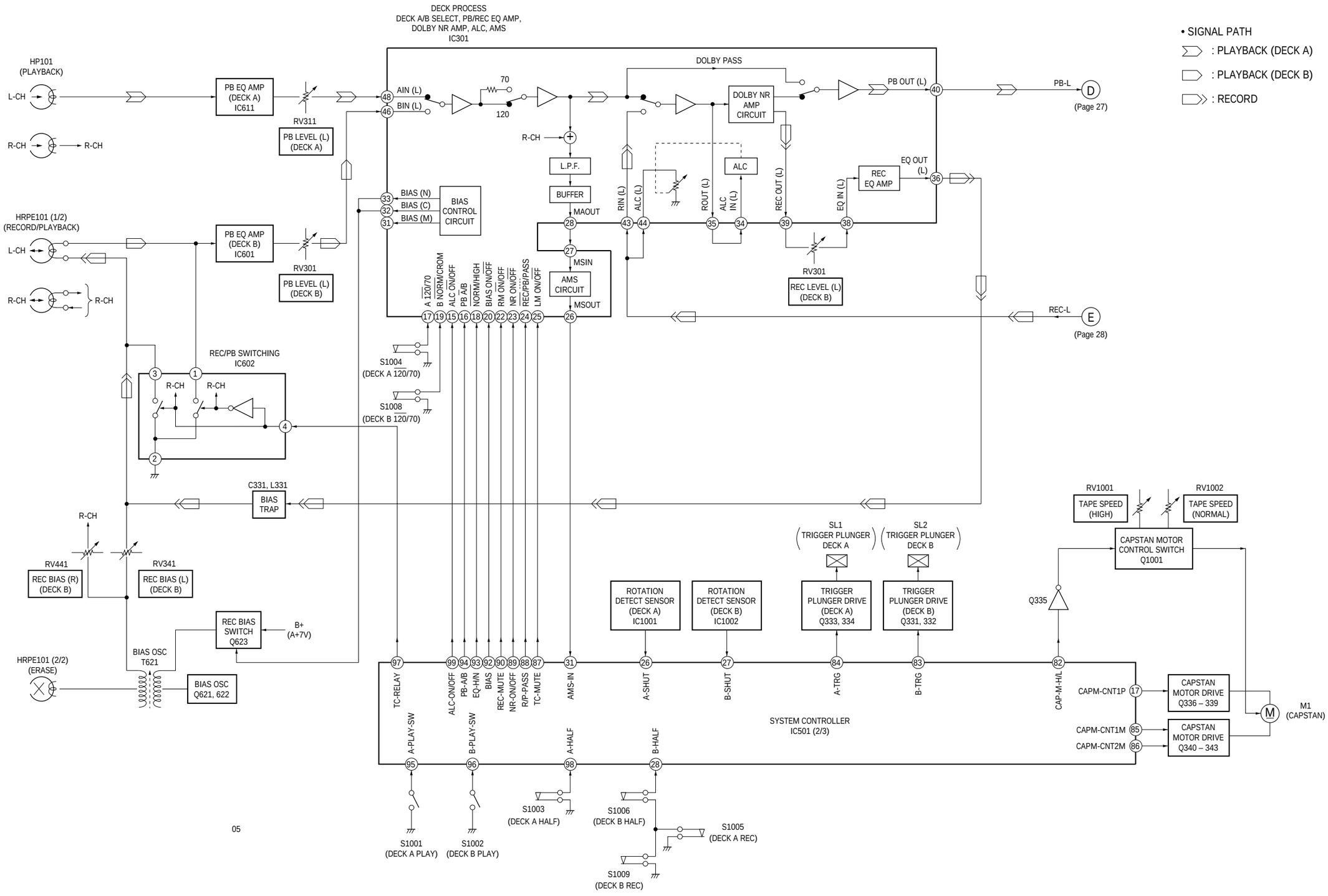
## 7-1. BLOCK DIAGRAM – TUNER Section (East European, CIS models only) –



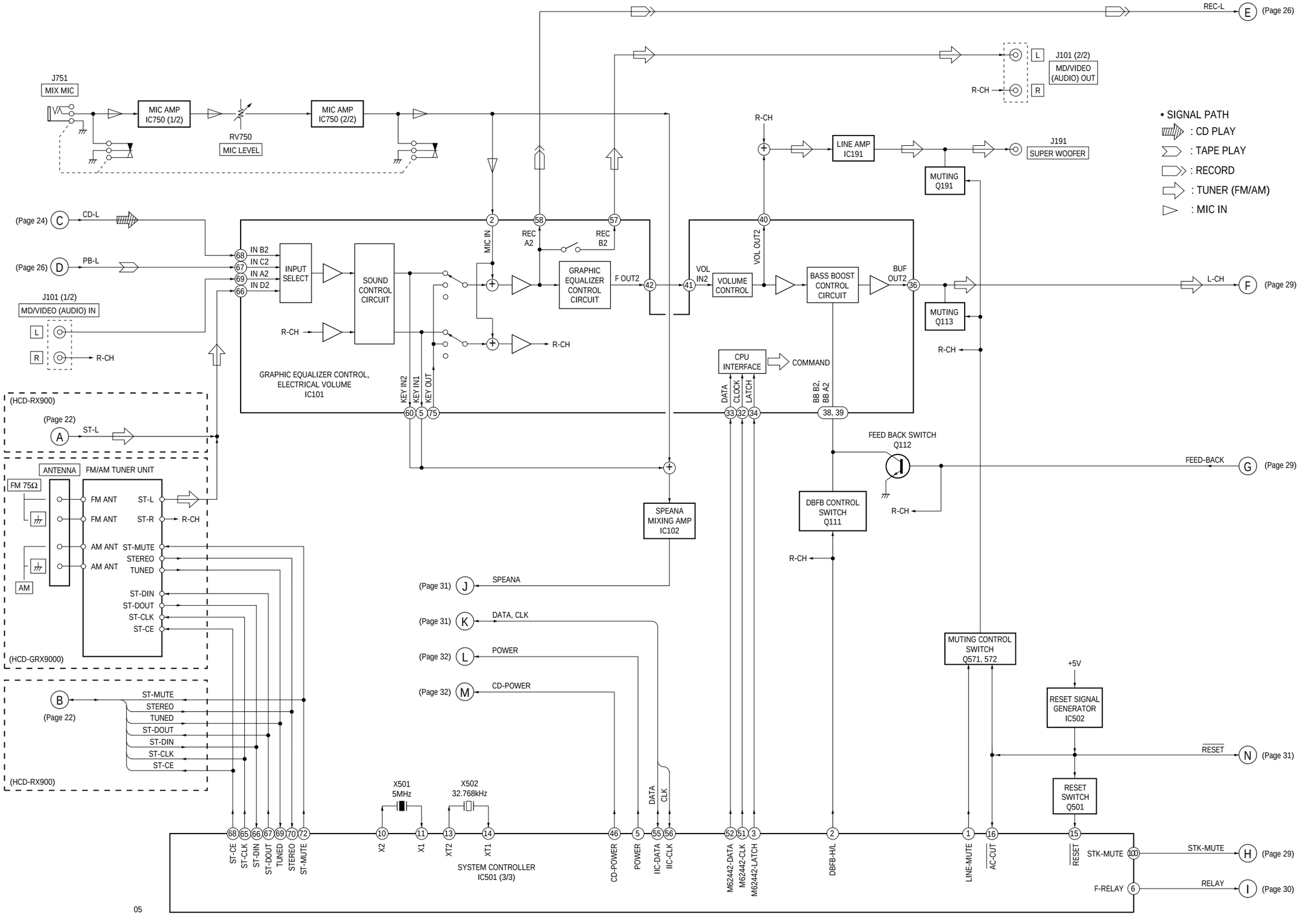
## 7-2. BLOCK DIAGRAM – CD Section –



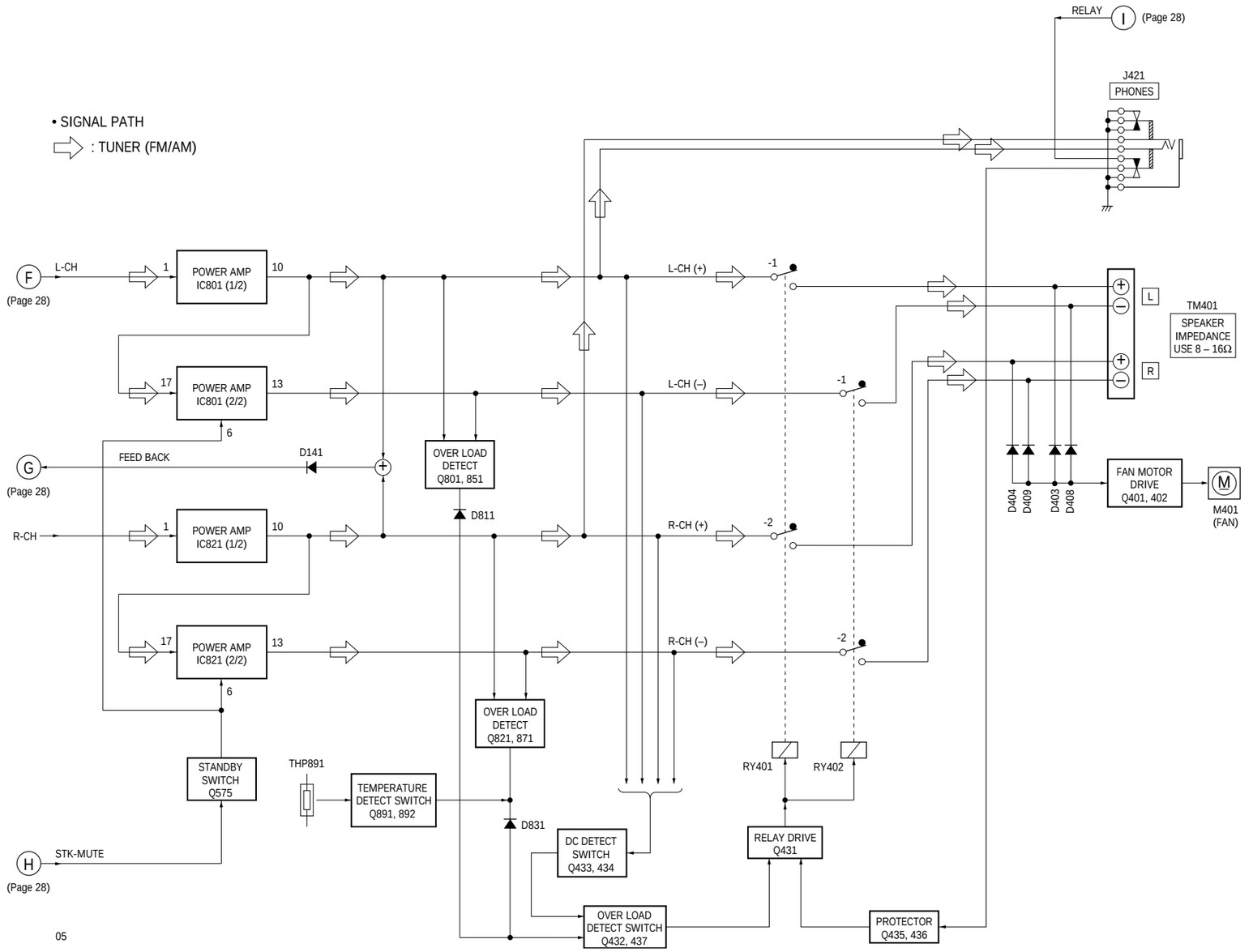
## 7-3. BLOCK DIAGRAM – TAPE DECK Section –



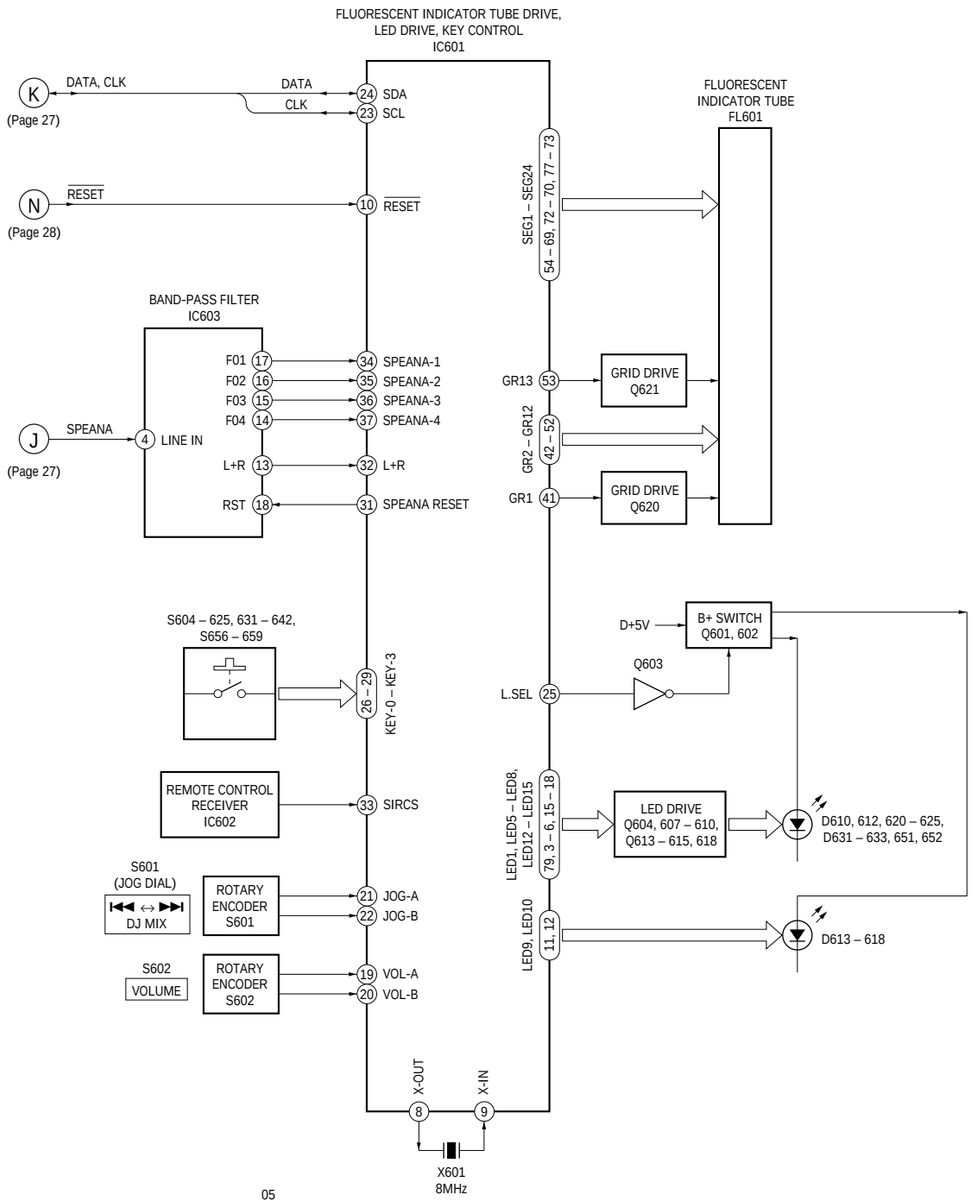
## 7-4. BLOCK DIAGRAM – MAIN Section (1/2) –

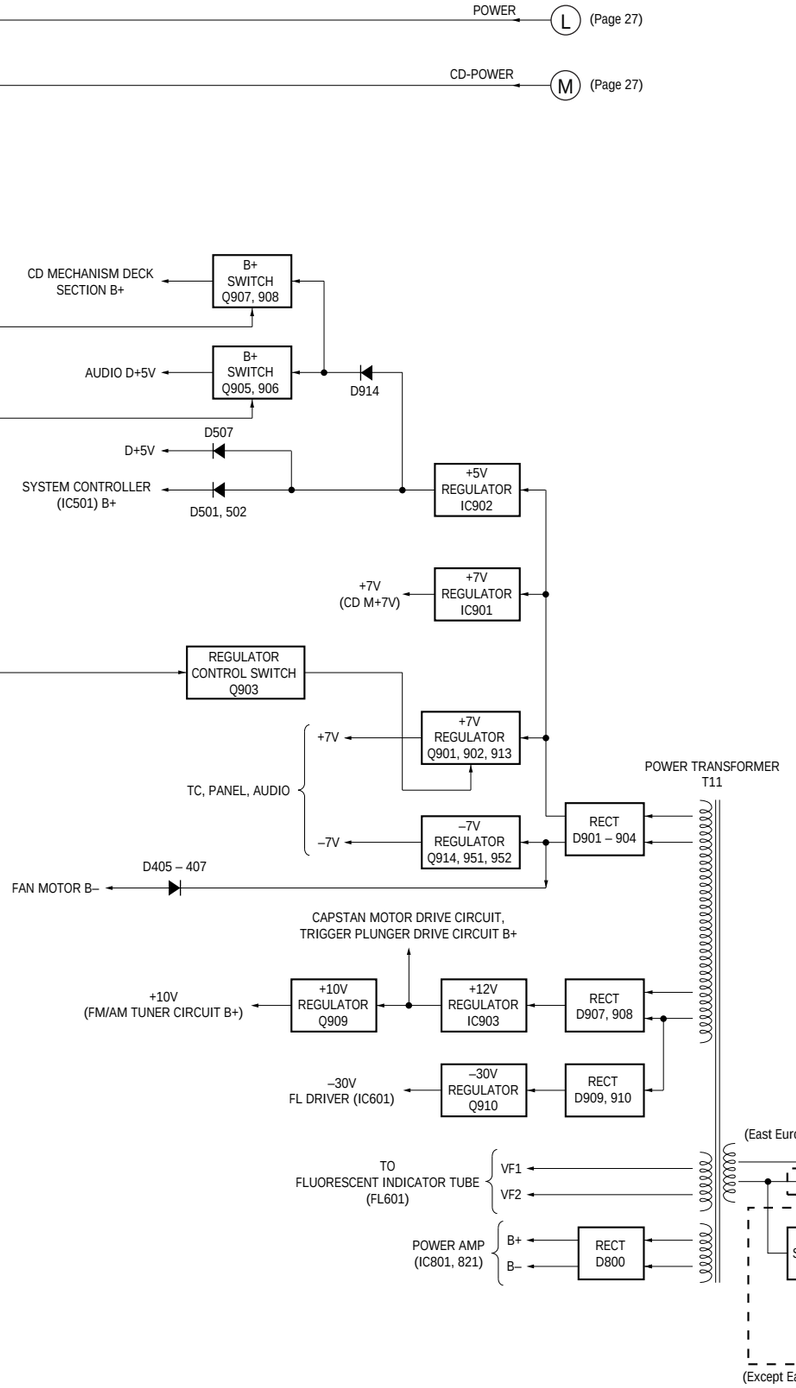


## 7-5. BLOCK DIAGRAM – MAIN Section (2/2) –



## 7-6. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –



## 7-7. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

(In addition to this, the necessary note is printed in each block.)

**Note on Schematic Diagram:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in W and $^1/_4$ W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B– : B– Line.
- : adjustment for repair.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : FM
  - : AM
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)
  - : CD
  - : DIGITAL OUT
  - : MIC IN
- Abbreviation
  - EA : Saudi Arabia model.
  - EE : East European model.
  - MY : Malaysia model.
  - SP : Singapore model.

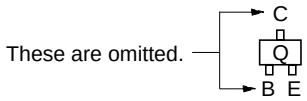
**Note on Printed Wiring Boards:**

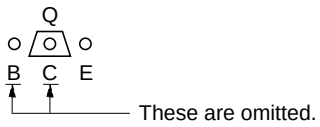
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.

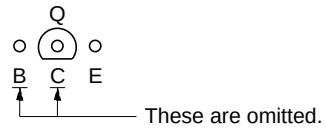
(The other layers' patterns are not indicated.)

| Caution: | |
|---|---|
| Pattern face side: (Side B) | Parts on the pattern face side seen from the pattern face are indicated. |
| Parts face side: (Side A) | Parts on the parts face side seen from the parts face are indicated. |

- Indication of transistor.

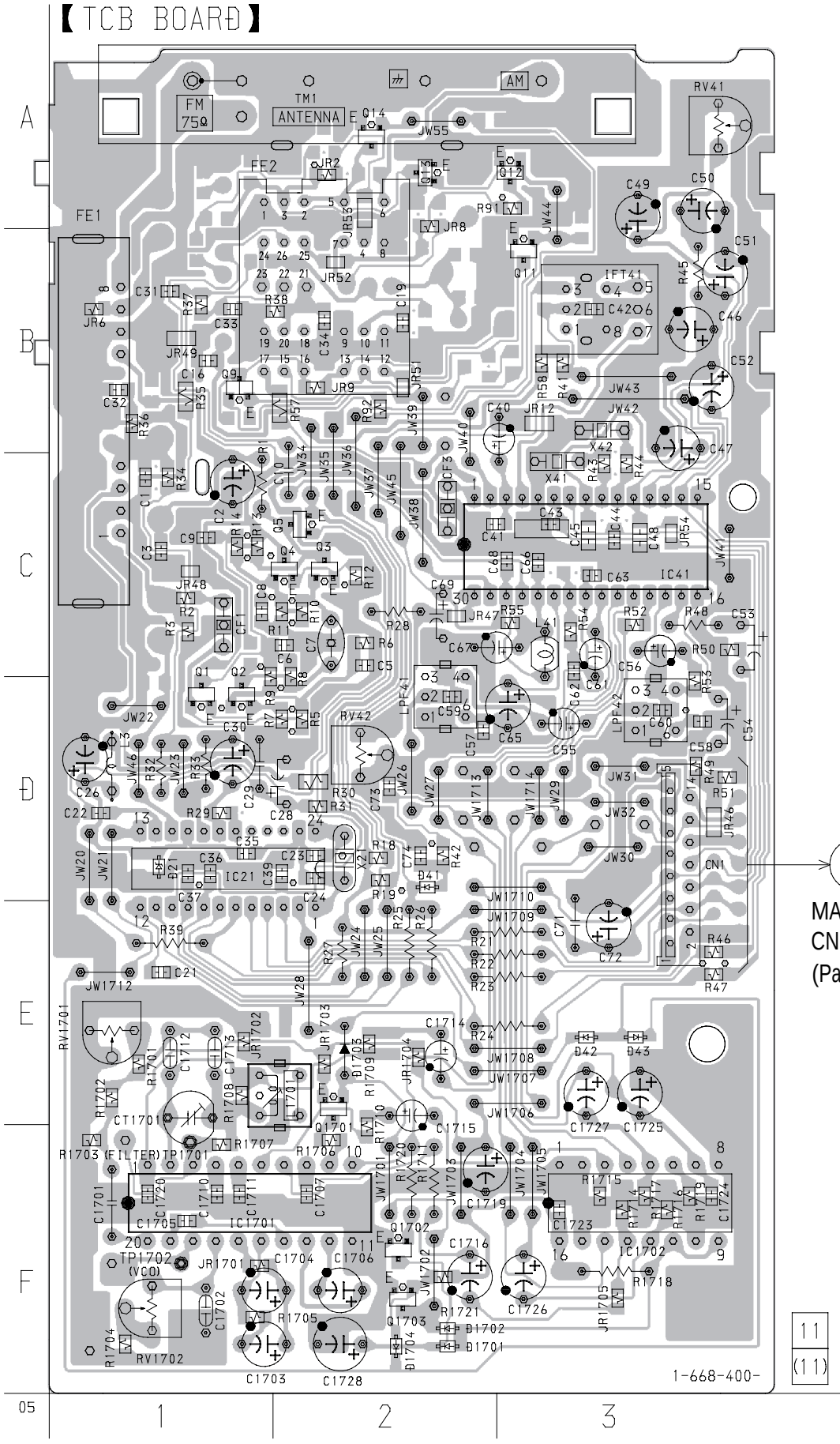


## 7-8. PRINTED WIRING BOARD – TUNER Section (East European, CIS models only) –

• See page 20 for Circuit Boards Location.

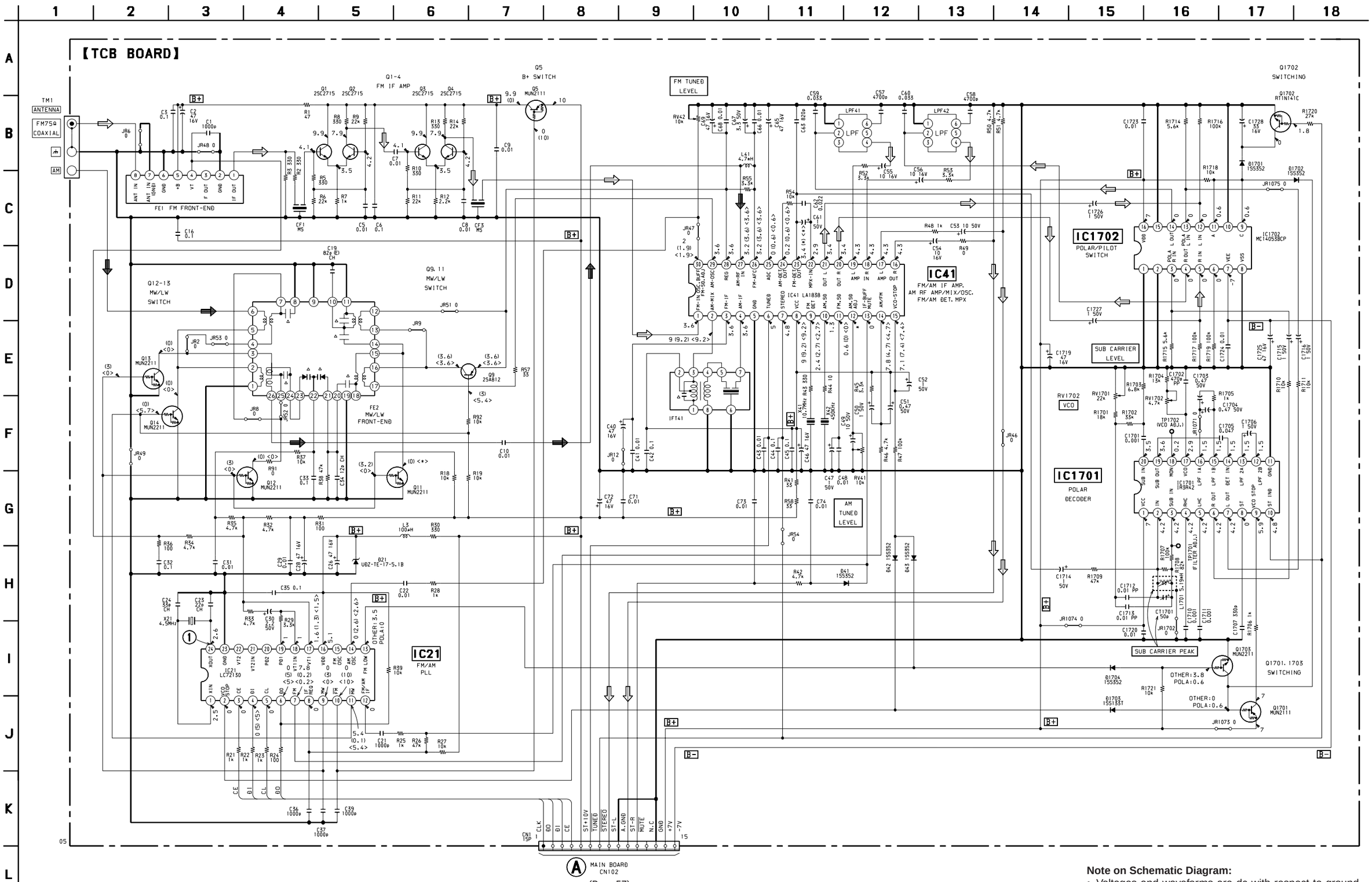



• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D21 | D-1 |
| D41 | D-2 |
| D42 | E-3 |
| D43 | E-3 |
| D1701 | F-2 |
| D1702 | F-2 |
| D1703 | E-2 |
| D1704 | F-2 |
| IC21 | D-1 |
| IC41 | C-3 |
| IC1701 | F-1 |
| IC1702 | F-3 |
| Q1 | D-1 |
| Q2 | D-2 |
| Q3 | C-2 |
| Q4 | C-2 |
| Q5 | C-2 |
| Q9 | B-1 |
| Q11 | B-3 |
| Q12 | A-3 |
| Q13 | A-2 |
| Q14 | A-2 |
| Q1701 | E-2 |
| Q1702 | F-2 |
| Q1703 | F-2 |

## 7-9. SCHEMATIC DIAGRAM – TUNER Section (East European, CIS models only) –

• See page 75 for Waveforms. • See pages 76 and 77 for IC Block Diagrams.




(Page 57)

**Note on Schematic Diagram:**

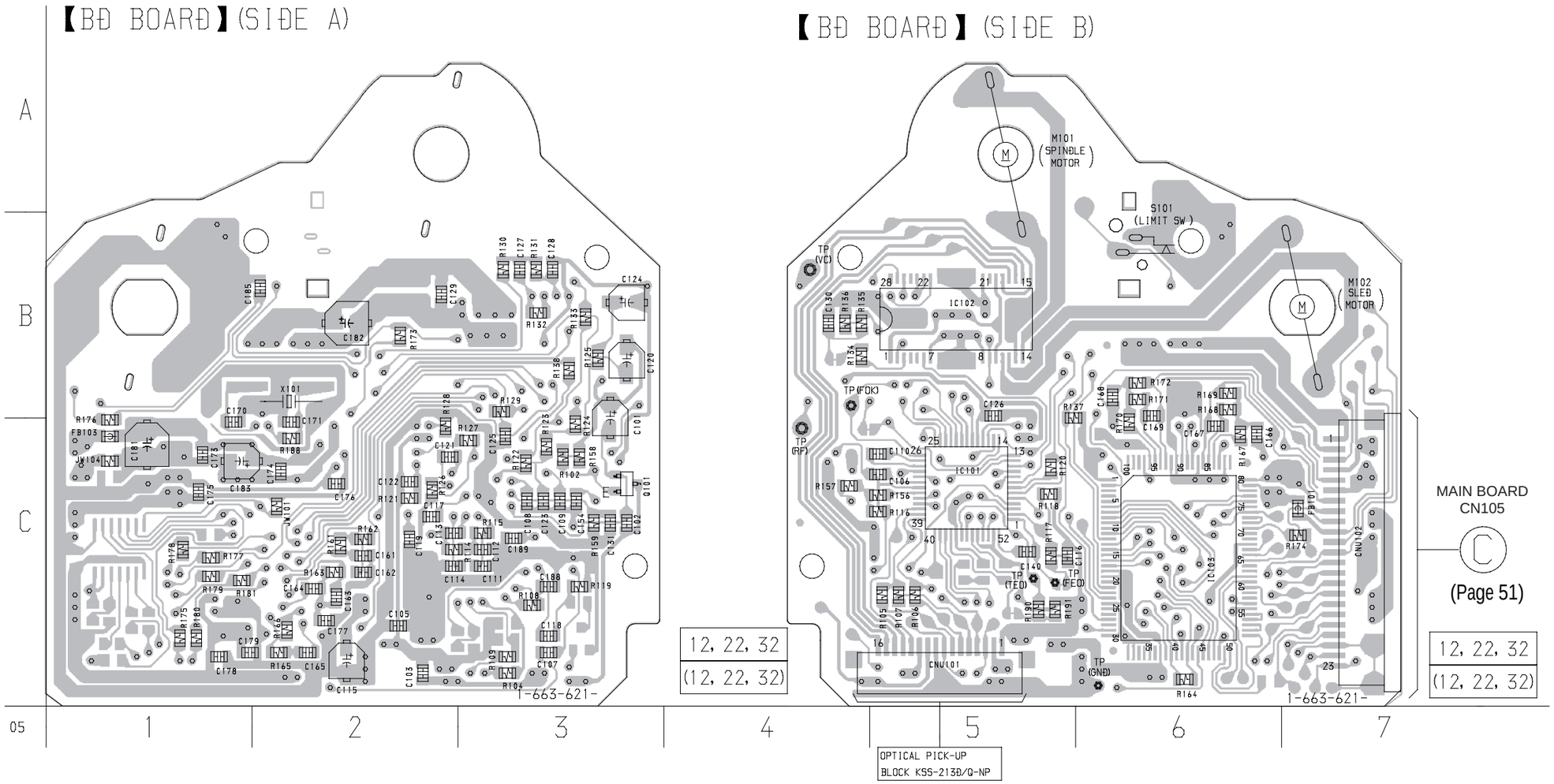
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  < > : LW
  * : Impossible to measure

## 7-10. PRINTED WIRING BOARD – CD Section –

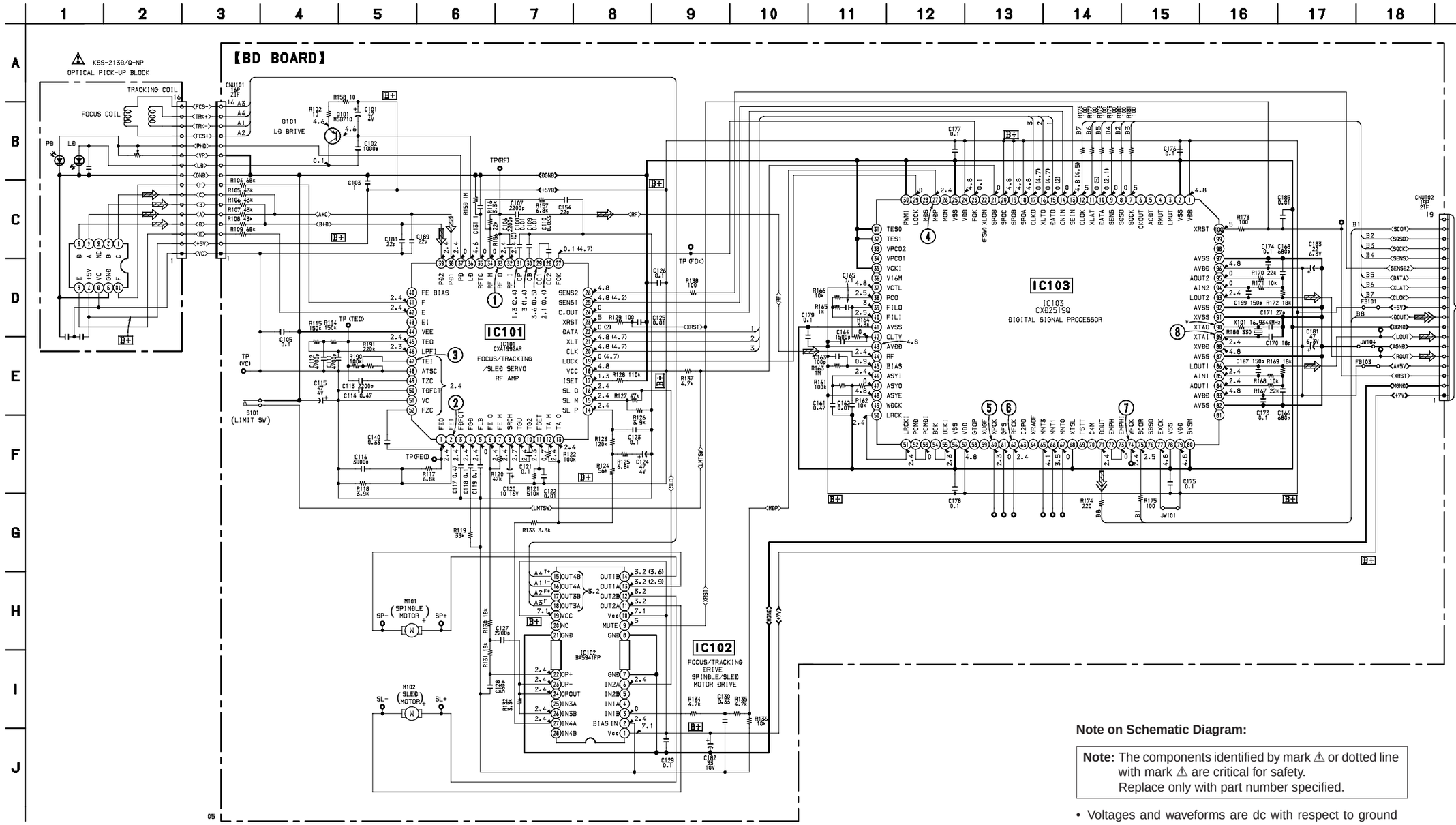
• See page 20 for Circuit Boards Location.

• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| IC101 | C-5 |
| IC102 | B-5 |
| IC103 | C-6 |
| Q101 | C-3 |



## 7-11. SCHEMATIC DIAGRAM – CD Section – • See page 75 for Waveforms. • See pages 78 and 79 for IC Block Diagrams.



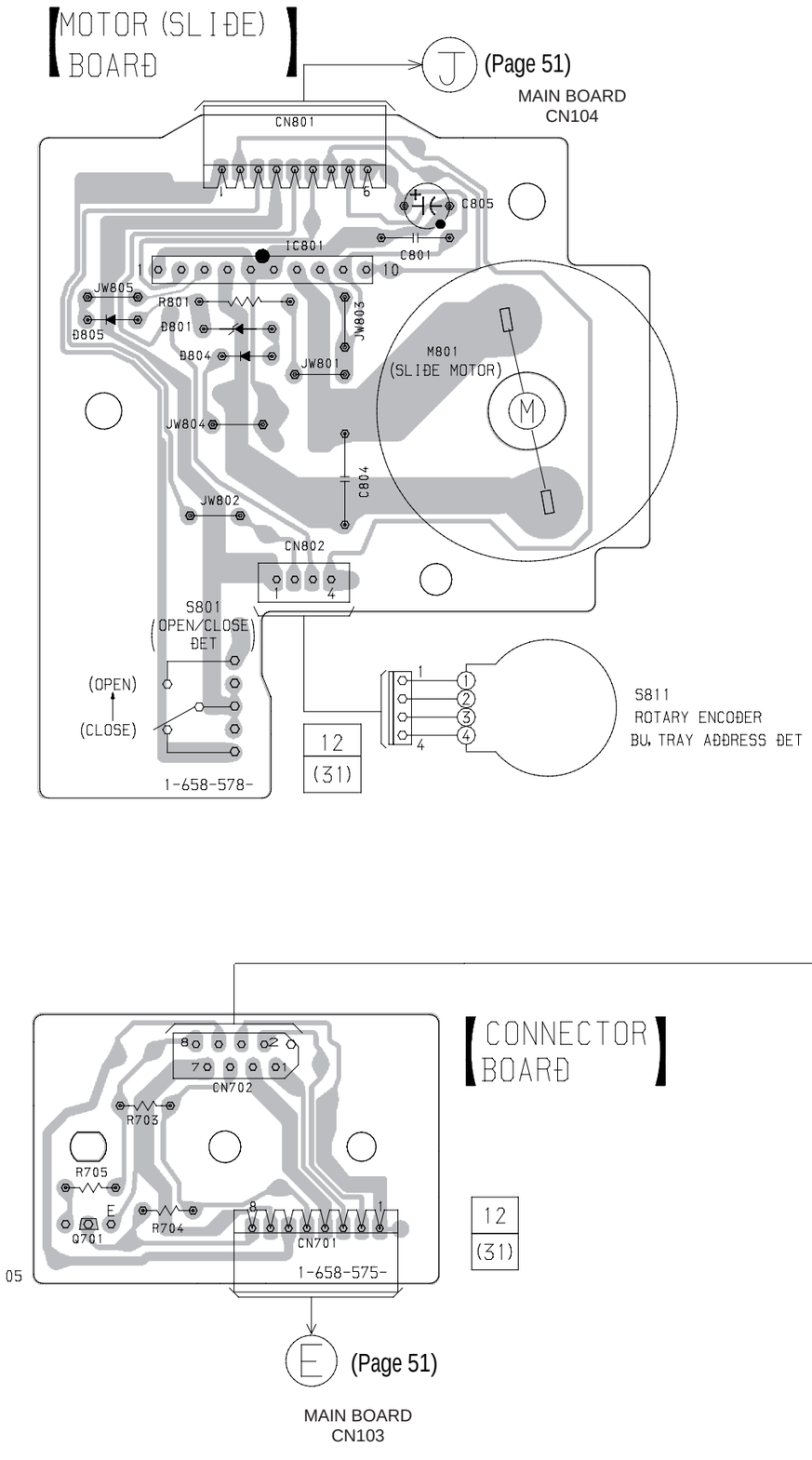

**Note on Schematic Diagram:**

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : PLAY
  ∗ : Impossible to measure

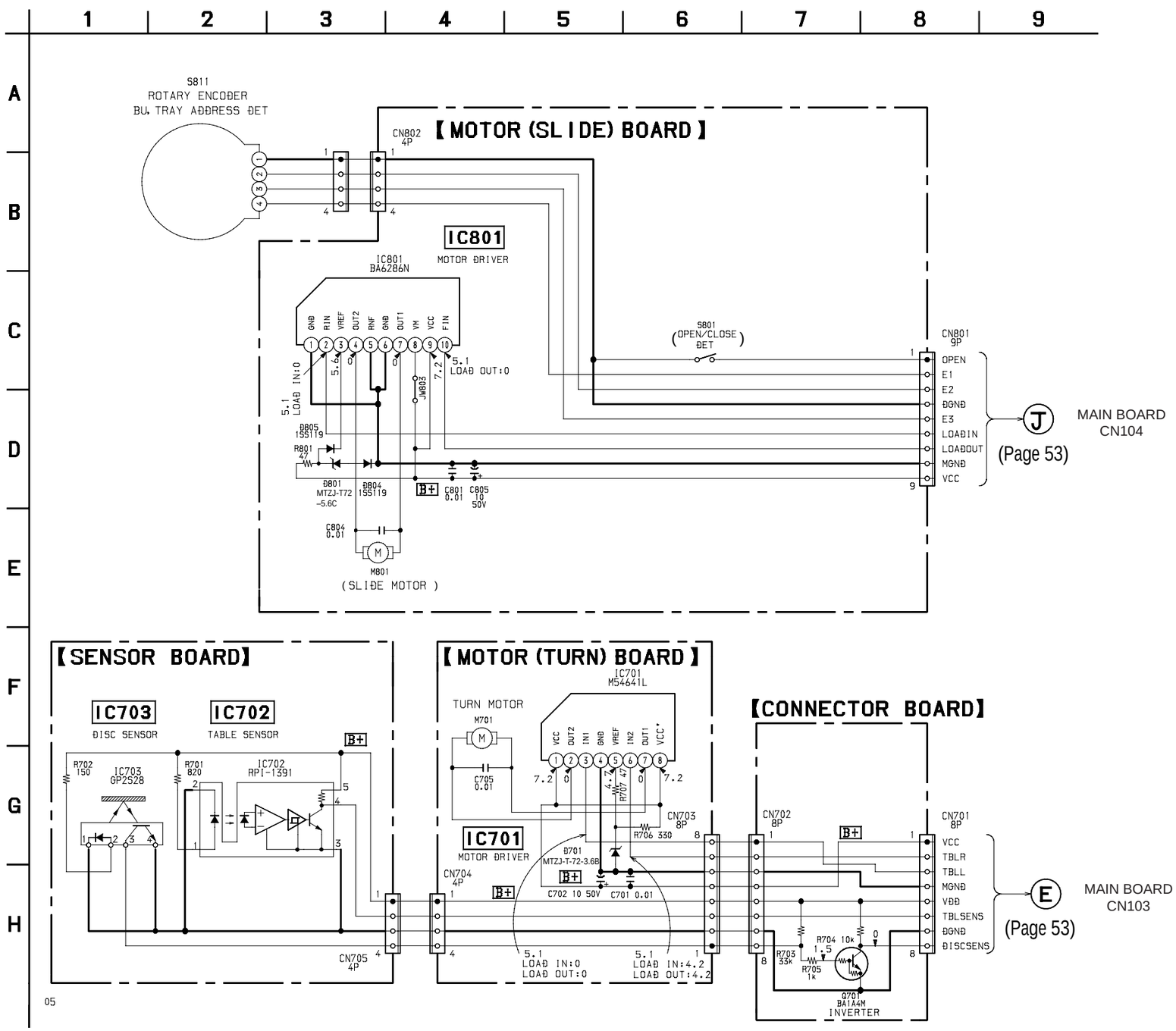
## 7-12. PRINTED WIRING BOARDS – CD MOTOR Section –

• See page 20 for Circuit Boards Location.



## 7-13. SCHEMATIC DIAGRAM – CD MOTOR Section –

• See page 80 for IC Block Diagrams.

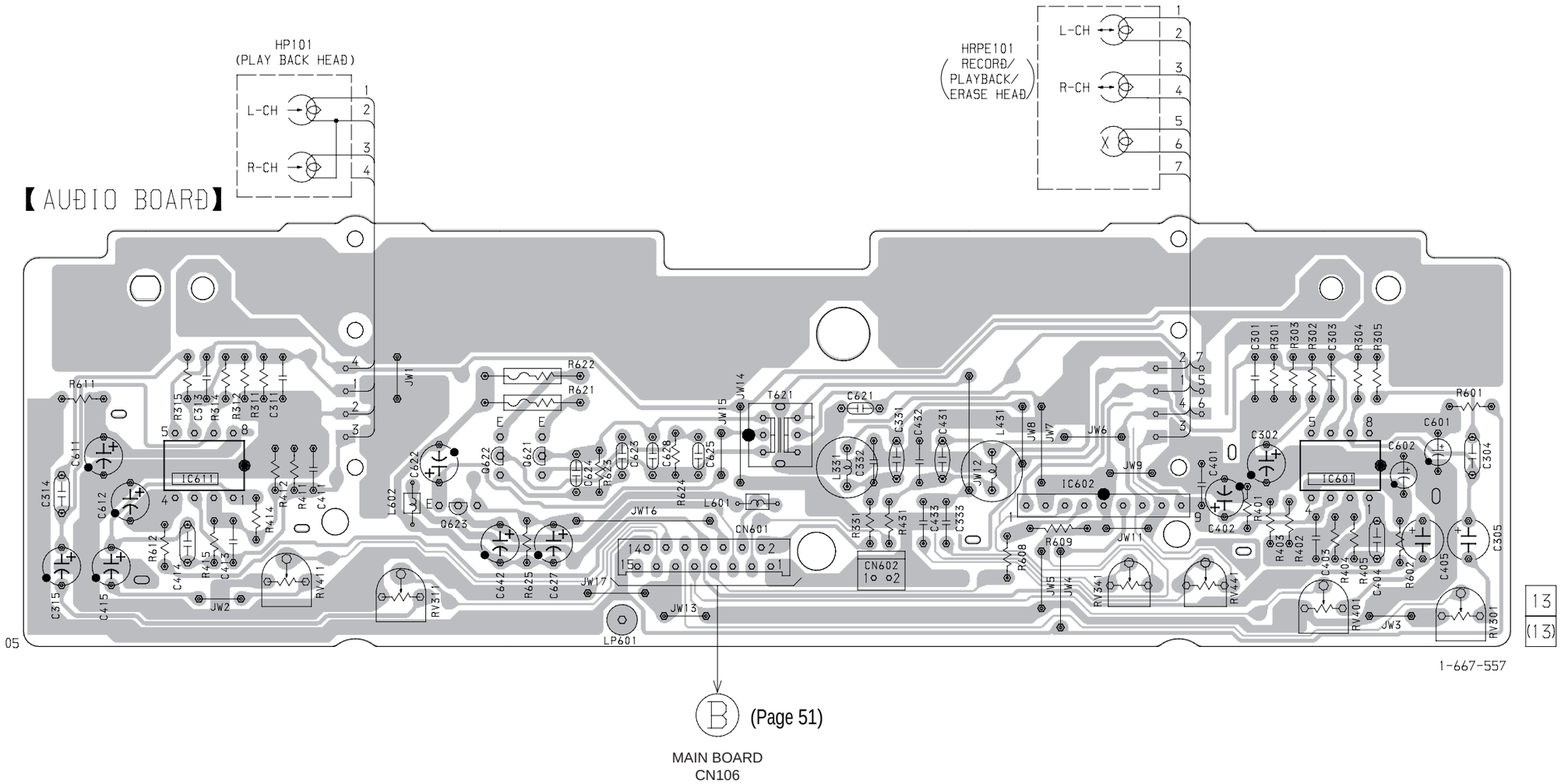



**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal conditions.
  no mark : STOP

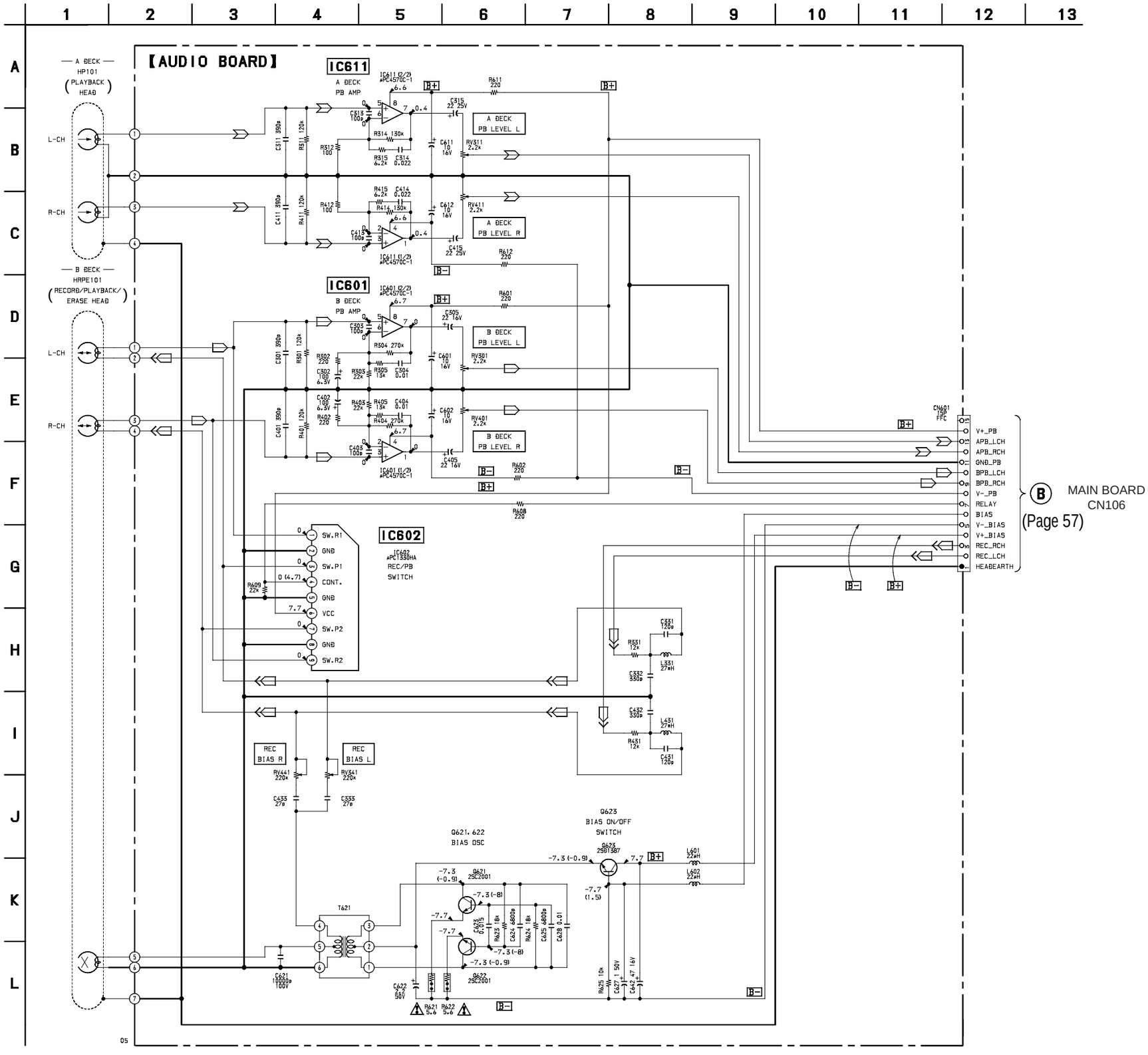
## 7-14. PRINTED WIRING BOARD – TAPE DECK Section –

• See page 20 for Circuit Boards Location.



## 7-15. SCHEMATIC DIAGRAM – TAPE DECK Section –

• See page 80 for IC Block Diagram.

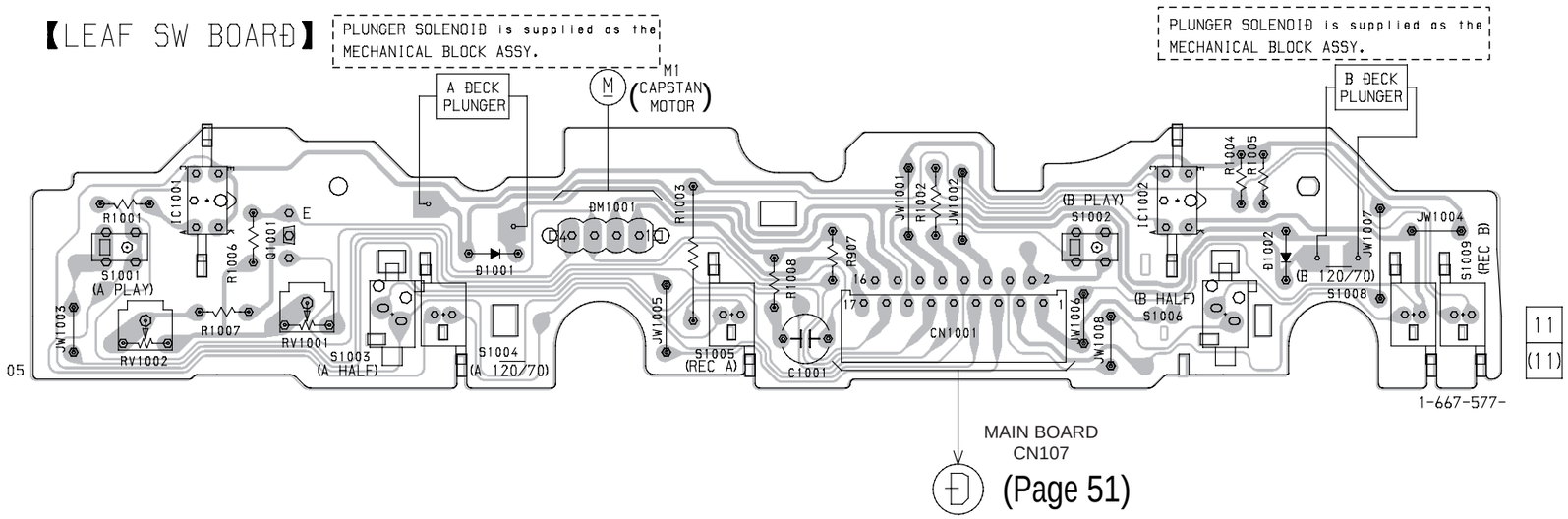



**Note on Schematic Diagram:**

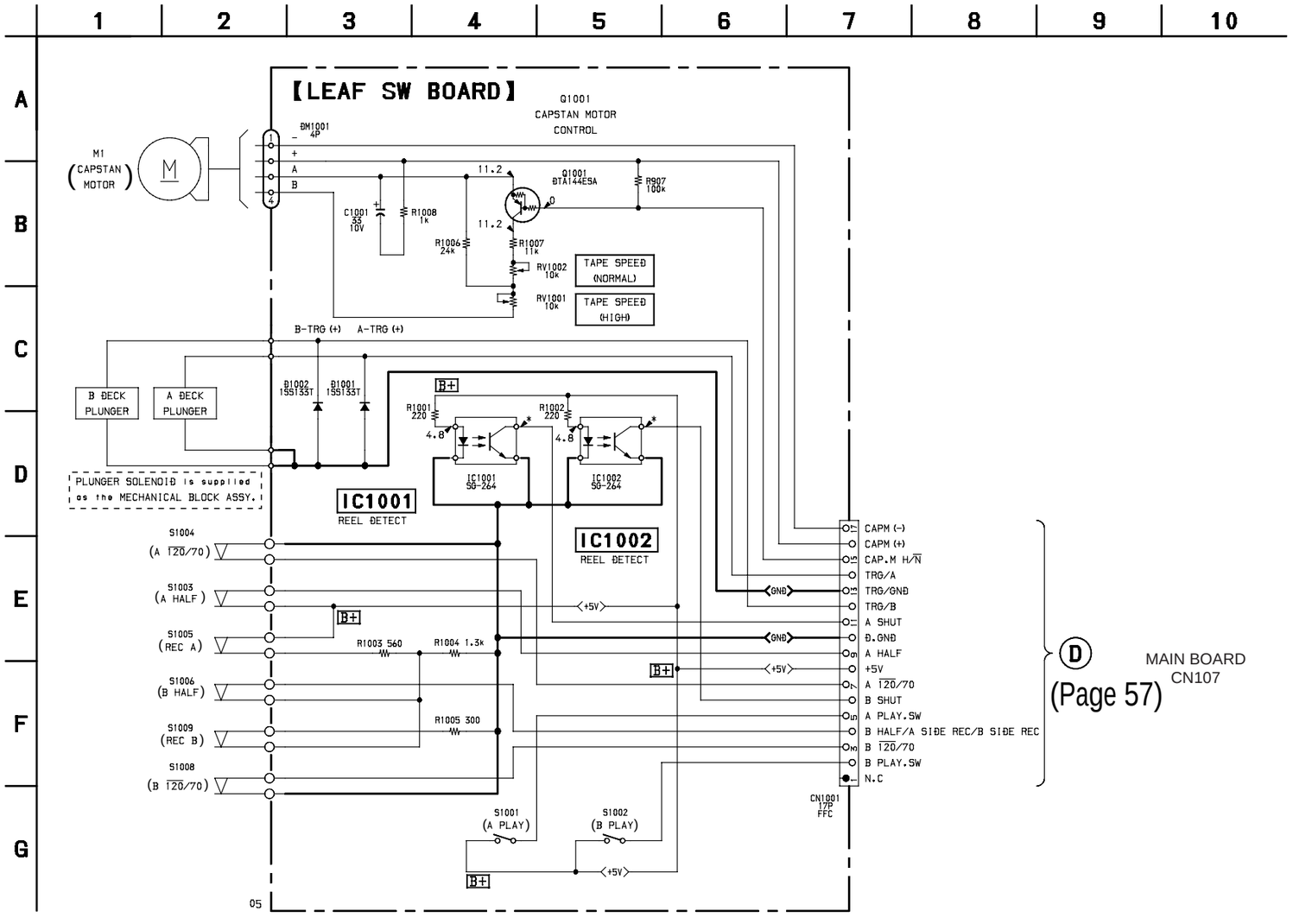
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Voltages are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC

## 7-16. PRINTED WIRING BOARD – LEAF SW Section – • See page 20 for Circuit Boards Location.




## 7-17. SCHEMATIC DIAGRAM – LEAF SW Section –

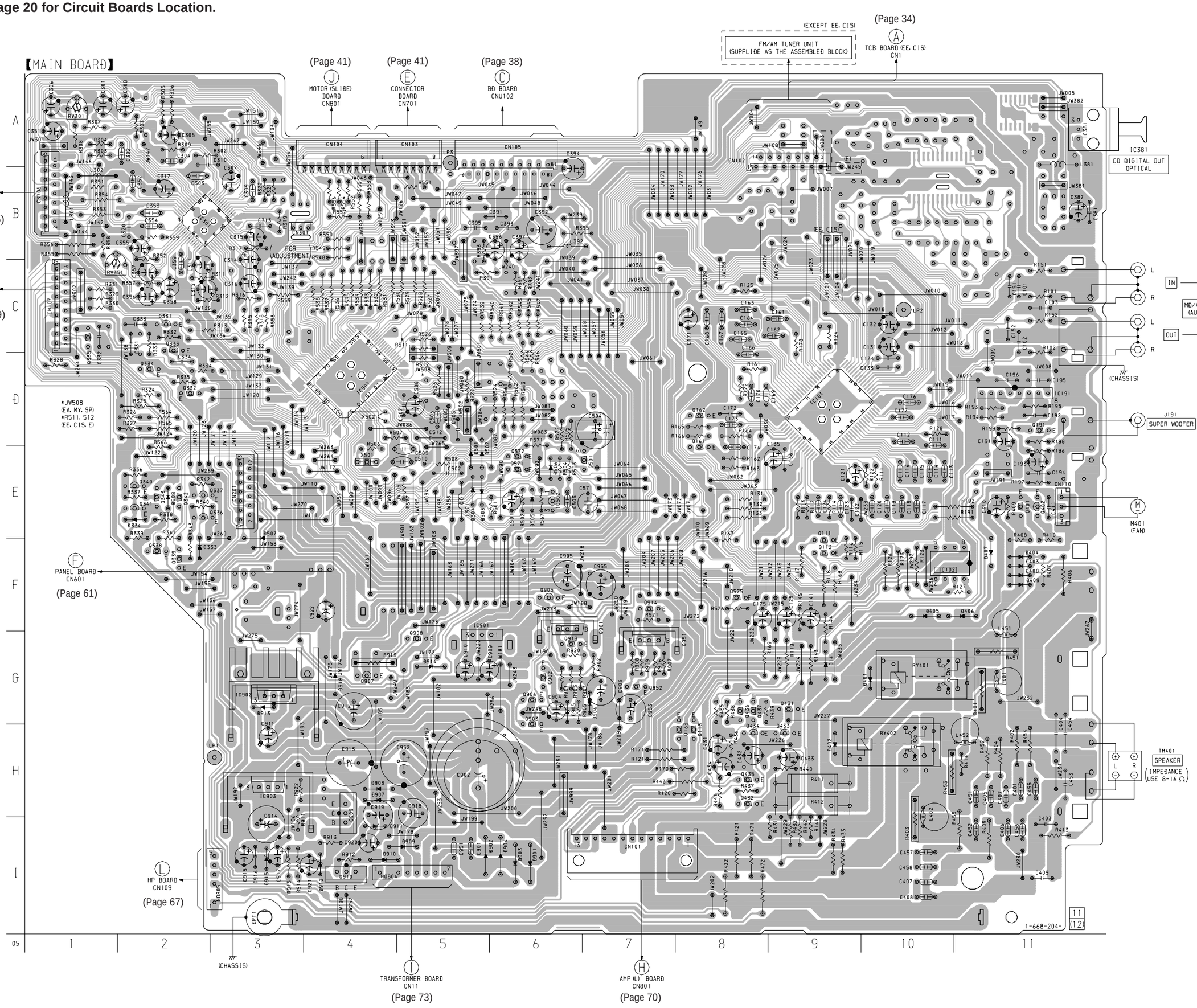



• **Semiconductor Location**

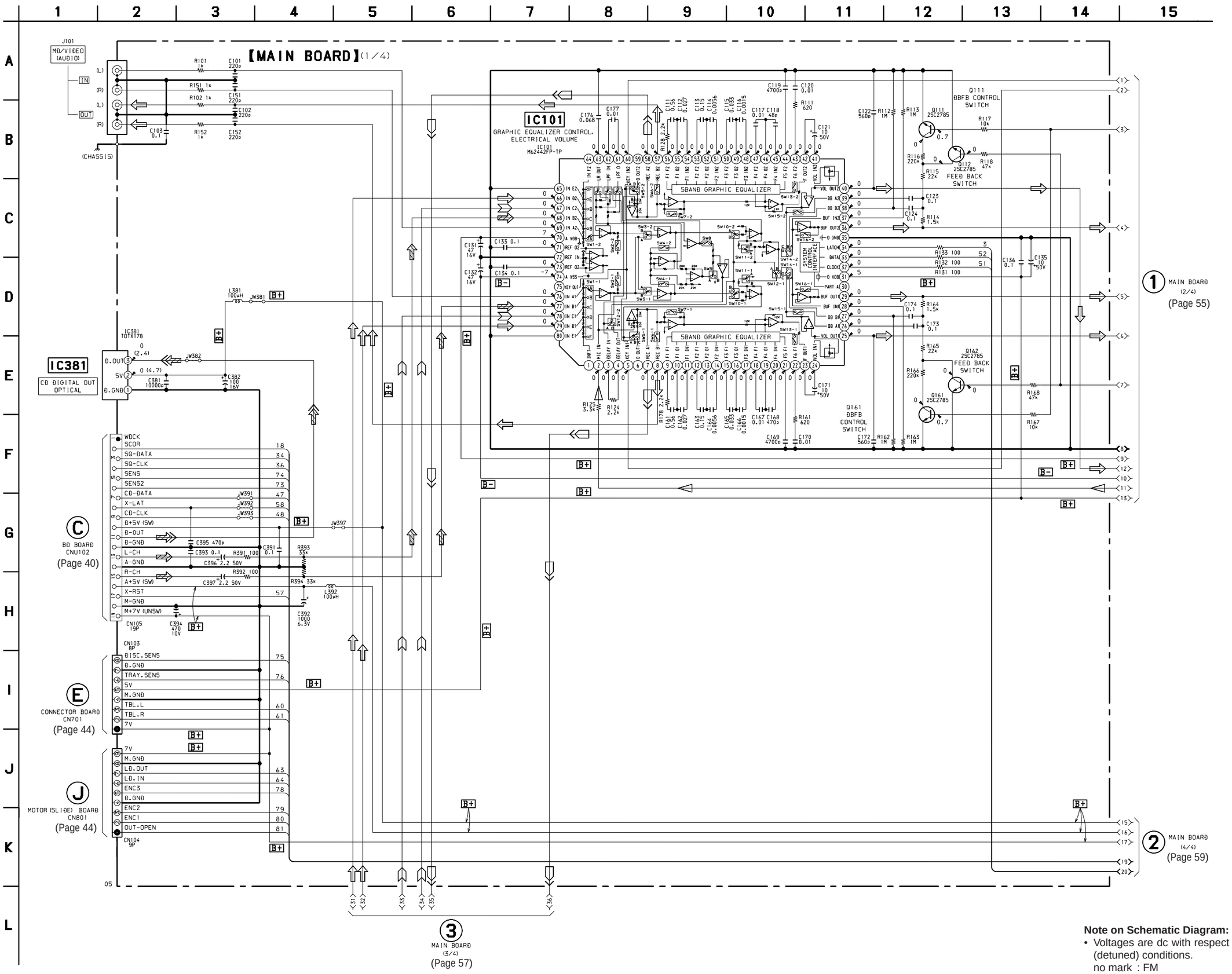
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D141 | G-9 | Q111 | F-9 |
| D333 | F-2 | Q112 | F-9 |
| D334 | E-2 | Q113 | H-8 |
| D401 | G-10 | Q161 | E-8 |
| D402 | H-9 | Q162 | D-8 |
| D403 | F-11 | Q163 | H-8 |
| D404 | F-11 | Q191 | D-11 |
| D405 | F-10 | Q331 | C-2 |
| D406 | F-11 | Q332 | D-2 |
| D407 | F-11 | Q333 | C-2 |
| D408 | F-11 | Q334 | D-2 |
| D409 | F-11 | Q335 | C-1 |
| D501 | E-5 | Q336 | E-2 |
| D502 | E-5 | Q337 | E-2 |
| D503 | E-5 | Q338 | F-2 |
| D504 | E-5 | Q339 | F-2 |
| D505 | E-6 | Q340 | E-2 |
| D506 | E-6 | Q341 | E-2 |
| D507 | E-3 | Q342 | E-2 |
| D508 | E-2 | Q343 | E-2 |
| D901 | I-6 | Q401 | E-11 |
| D902 | I-5 | Q402 | E-11 |
| D903 | I-6 | Q431 | G-9 |
| D904 | I-6 | Q432 | H-8 |
| D905 | G-6 | Q433 | H-9 |
| D906 | G-7 | Q434 | H-8 |
| D907 | H-4 | Q435 | H-8 |
| D908 | H-4 | Q436 | G-8 |
| D909 | I-5 | Q437 | G-8 |
| D910 | I-4 | Q501 | E-7 |
| D911 | I-4 | Q571 | E-6 |
| D912 | I-4 | Q572 | E-6 |
| D913 | G-3 | Q575 | F-8 |
| D914 | G-5 | Q901 | F-6 |
| D915 | I-3 | Q902 | G-6 |
| | | Q903 | G-6 |
| IC101 | D-9 | Q905 | F-6 |
| IC102 | F-10 | Q906 | G-6 |
| IC191 | D-11 | Q907 | G-4 |
| IC301 | B-2 | Q908 | G-5 |
| IC381 | A-11 | Q909 | H-4 |
| IC501 | D-4 | Q910 | I-4 |
| IC502 | E-6 | Q913 | G-6 |
| IC901 | G-5 | Q914 | F-7 |
| IC902 | G-3 | Q951 | G-7 |
| IC903 | H-3 | Q952 | G-7 |

**Note on Schematic Diagram:**

• Voltages are dc with respect to ground under no-signal conditions.
no mark : PLAY
( ) : REC
∗ : Impossible to measure


【MAIN BOARD】
(Page 34)
(EXCEPT EE, CIS)
FM/AM TUNER UNIT
(SUPPLIDE AS THE ASSEMBLED BLOCK)
A TCB BOARD (EE, CIS) CN1
(Page 41) J MOTOR (SLIDE) BOARD CN801
(Page 41) E CONNECTOR BOARD CN701
(Page 38) C BD BOARD CNU102
B AUDIO BOARD CN601 (Page 45)
D LEAF SW BOARD CN1001 (Page 49)
F PANEL BOARD CN601 (Page 61)
L HP BOARD CN109 (Page 67)
(CHASSIS)
I TRANSFORMER BOARD CN11 (Page 73)
H AMP (L) BOARD CN801 (Page 70)
IC381 CD DIGITAL OUT OPTICAL
IN MD/VIDEO (AUDIO) J101
OUT
J191 SUPER WOOFER
M401 (FAN)
TM401 SPEAKER IMPEDANCE (USE 8-16 Ω)
*JW508 (EA, MY, SP)
*R511, 512 (EE, CIS, E)
FOR ADJUSTMENT
1-668-204-11 (12)

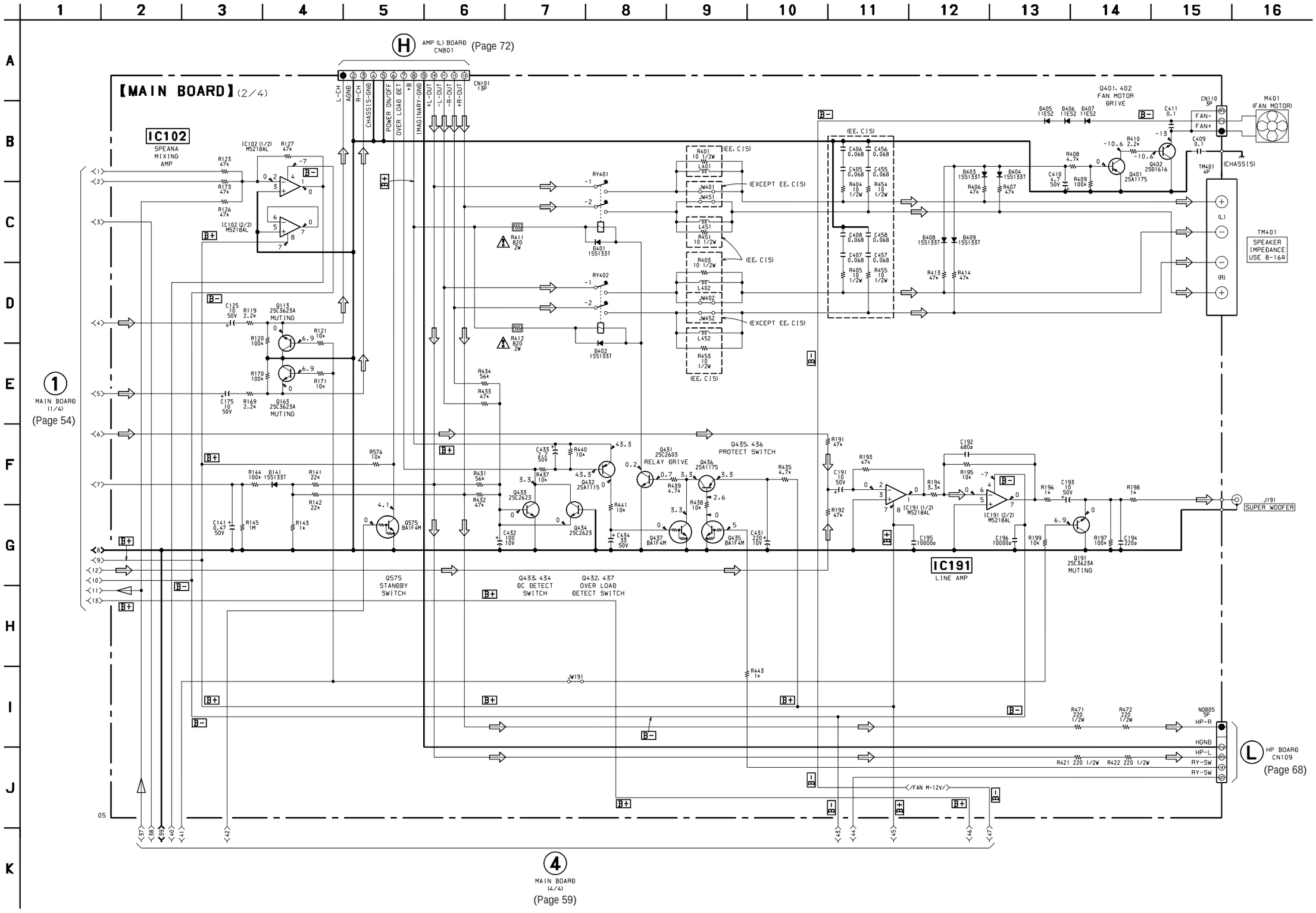
## 7-19. SCHEMATIC DIAGRAM – MAIN Section (1/4) –




**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : CD

## 7-20. SCHEMATIC DIAGRAM – MAIN Section (2/4) –

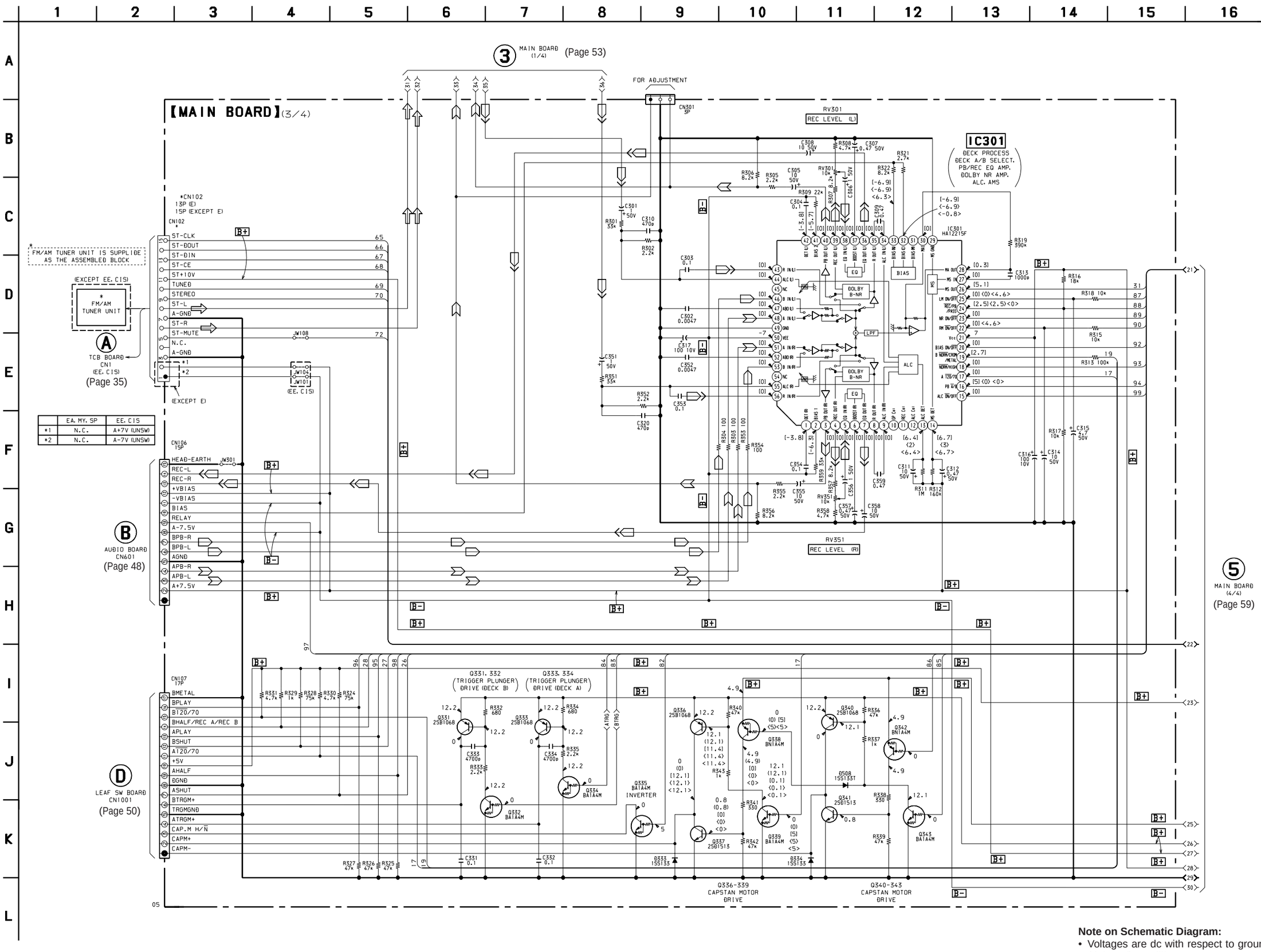



**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

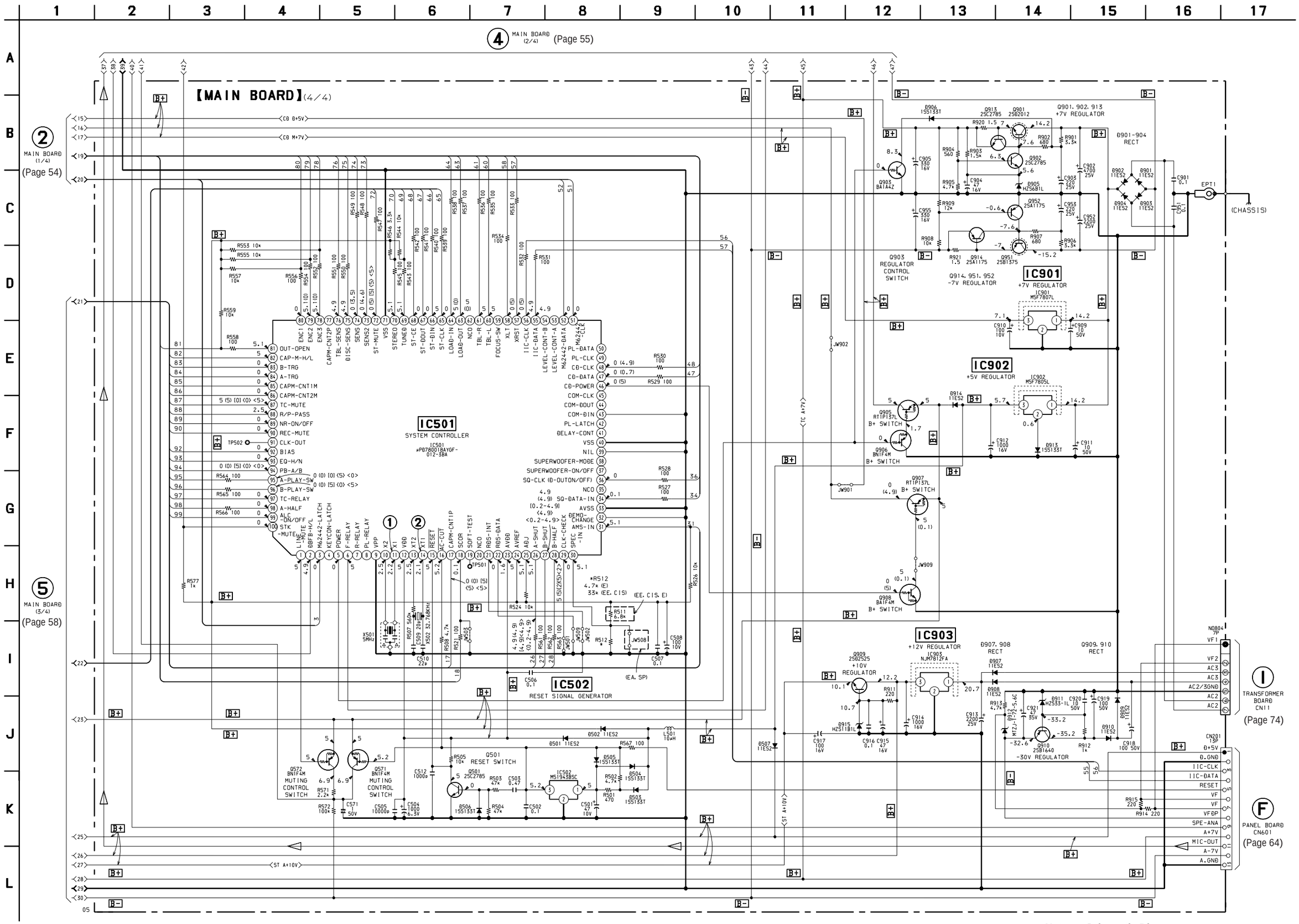
## 7-21. SCHEMATIC DIAGRAM – MAIN Section (3/4) –




**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM [ ] : PB (DECK B)
  ( ): CD { } : PB (DECK A)
  < > : REC

• See page 75 for Waveforms.



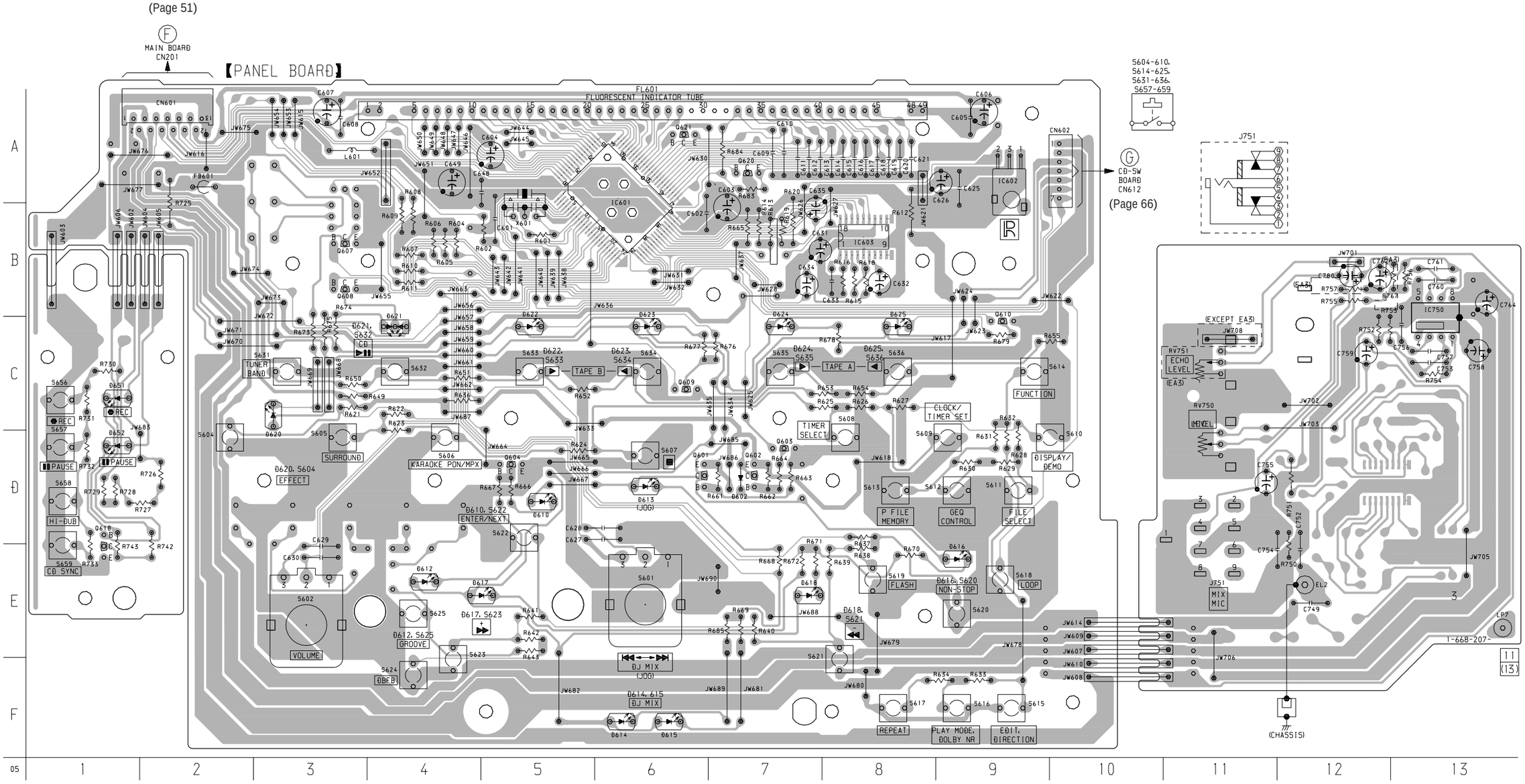

**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal (detuned) conditions.

| | |
|---|---|
| no mark: FM | [ ] : PB (DECK B) |
| ( ): CD | { } : PB (DECK A) |
| < > : REC | |

## 7-23. PRINTED WIRING BOARD – PANEL Section –

• See page 20 for Circuit Boards Location.

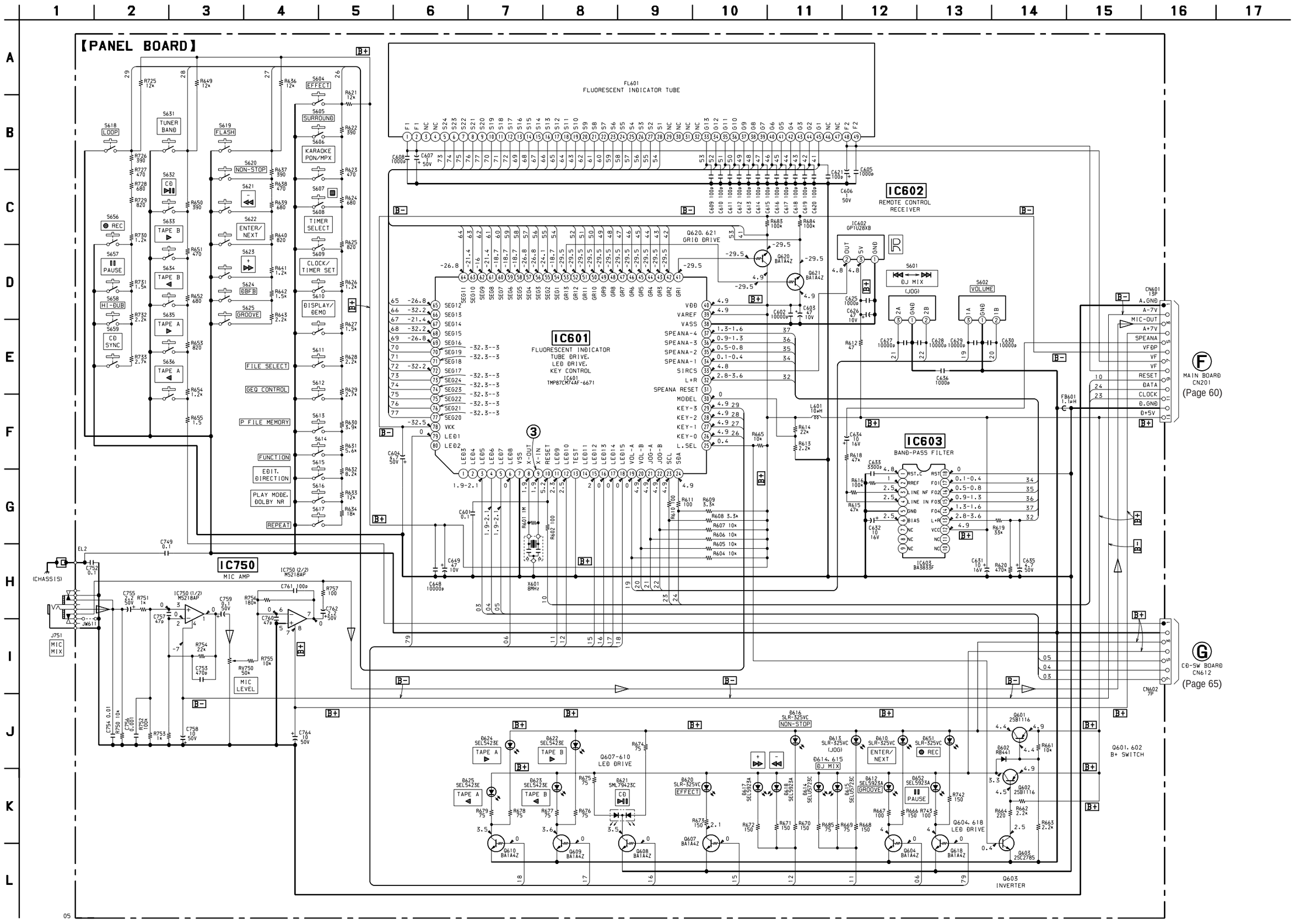



• **Semiconductor Location**

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|---|---|
| D602 | D-7 | D651 | C-1 | Q610 | C-9 |
| D610 | D-5 | D652 | D-1 | Q618 | E-1 |
| D612 | E-4 | | | Q620 | A-7 |
| D613 | D-6 | IC601 | B-6 | Q621 | A-6 |
| D614 | F-6 | IC602 | A-9 | | |
| D615 | F-6 | IC603 | B-8 | | |
| D616 | E-9 | IC750 | C-13 | | |
| D617 | E-4 | | | | |
| D618 | E-7 | Q601 | D-6 | | |
| D620 | C-3 | Q602 | D-7 | | |
| D621 | C-4 | Q603 | D-7 | | |
| D622 | C-5 | Q604 | D-5 | | |
| D623 | C-6 | Q607 | B-3 | | |
| D624 | C-7 | Q608 | B-3 | | |
| D625 | C-8 | Q609 | C-6 | | |

## 7-24. SCHEMATIC DIAGRAM – PANEL Section –

• See page 75 for Waveform. • See page 80 for IC Block Diagrams.

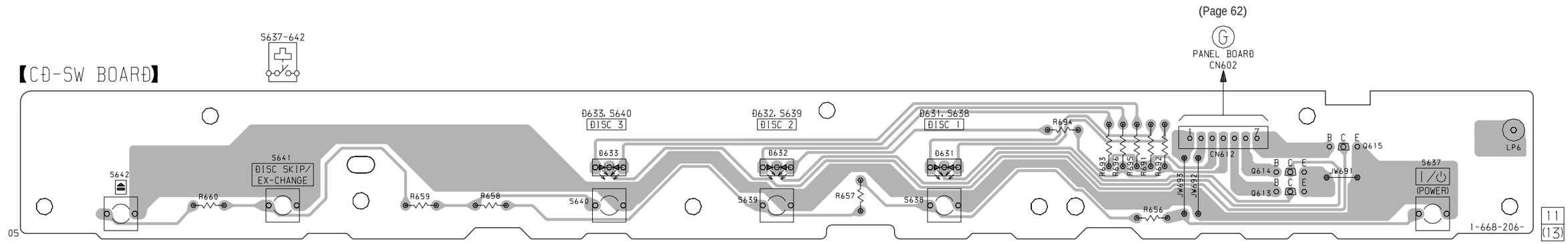


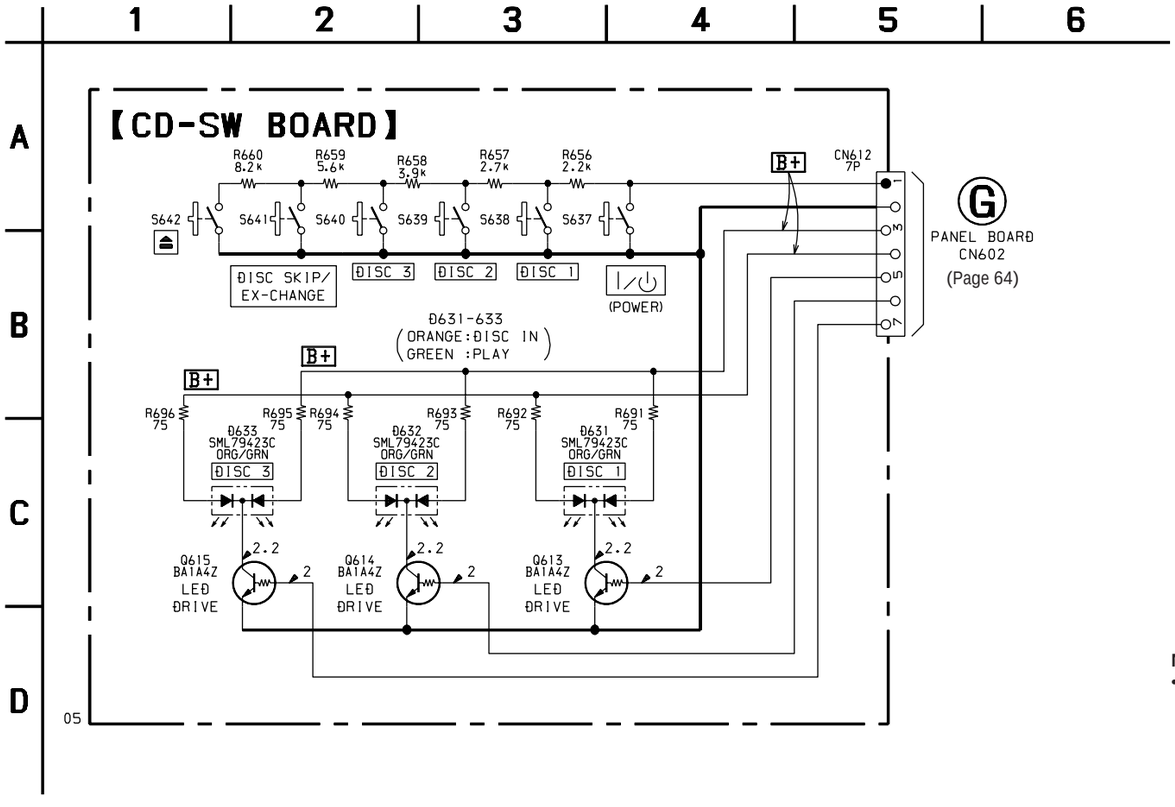

**Note on Schematic Diagram:**

- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM

## 7-25. PRINTED WIRING BOARD – CD-SW Section –

• See page 20 for Circuit Boards Location.




**Note on Schematic Diagram:**

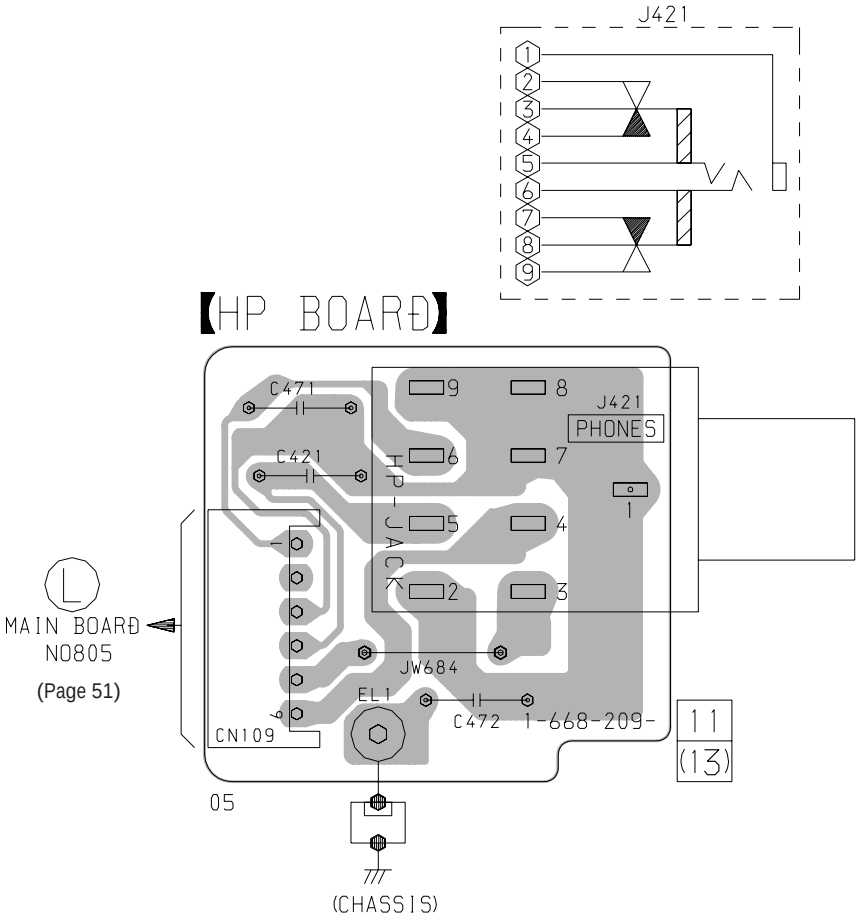
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM



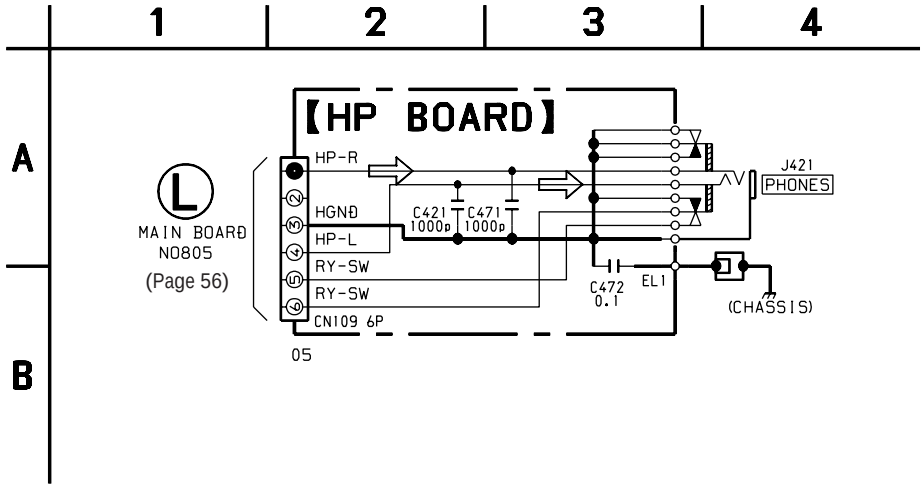
## 7-26. SCHEMATIC DIAGRAM – CD-SW Section –

## 7-27. PRINTED WIRING BOARD – HP Section –

**• See page 20 for Circuit Boards Location.**

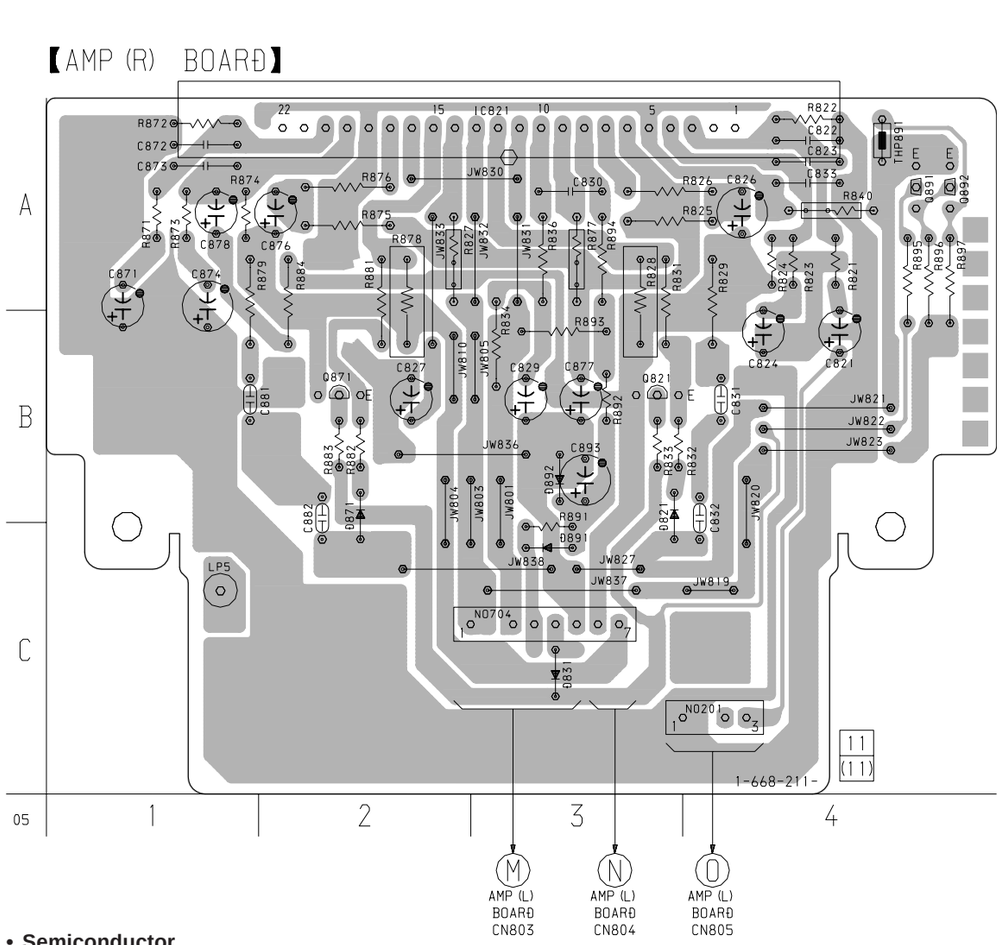


## 7-28. SCHEMATIC DIAGRAM – HP Section –



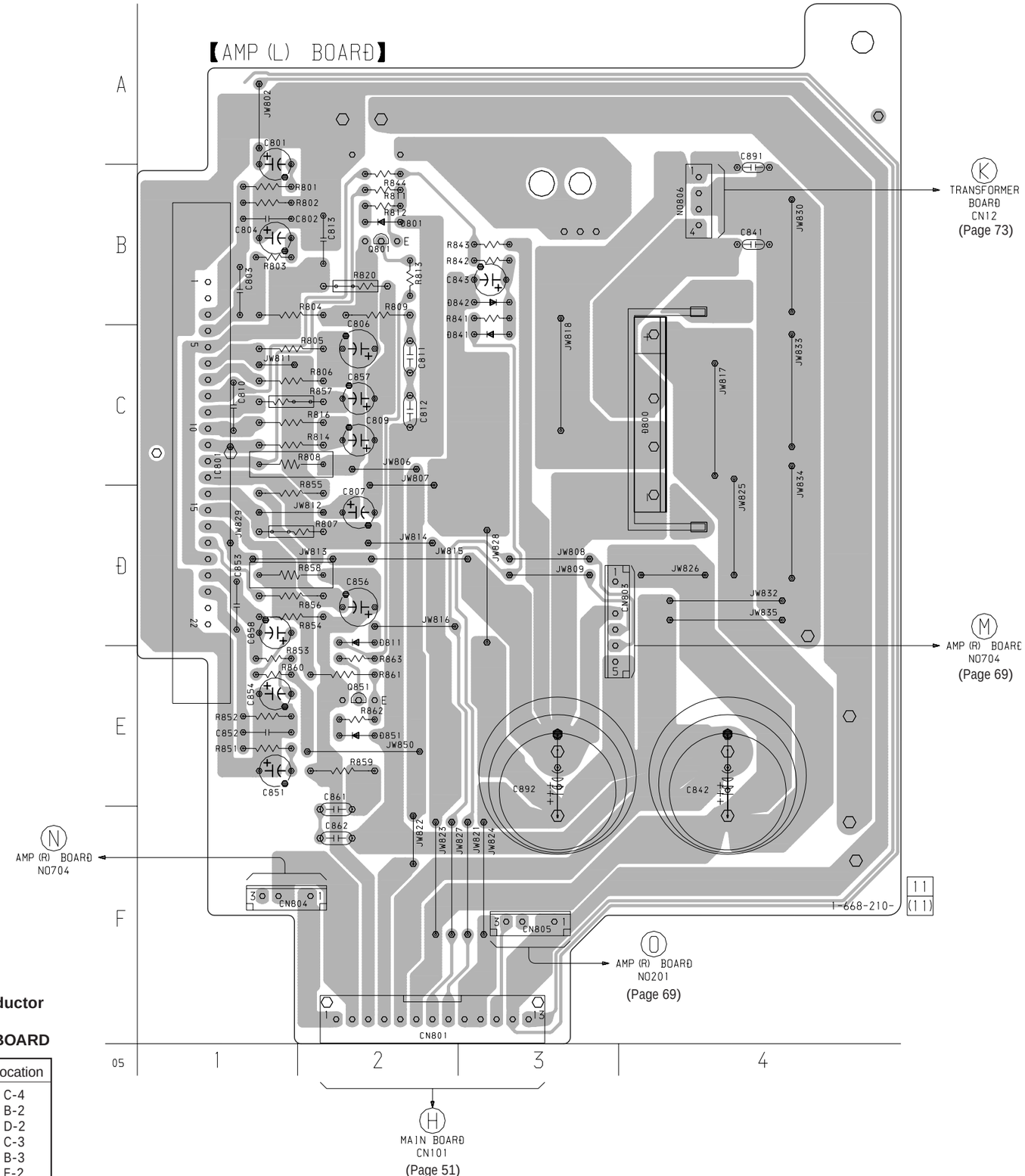
## 7-29. PRINTED WIRING BOARDS – POWER AMP Section –

• See page 20 for Circuit Boards Location.




• **Semiconductor Location AMP (R) BOARD**

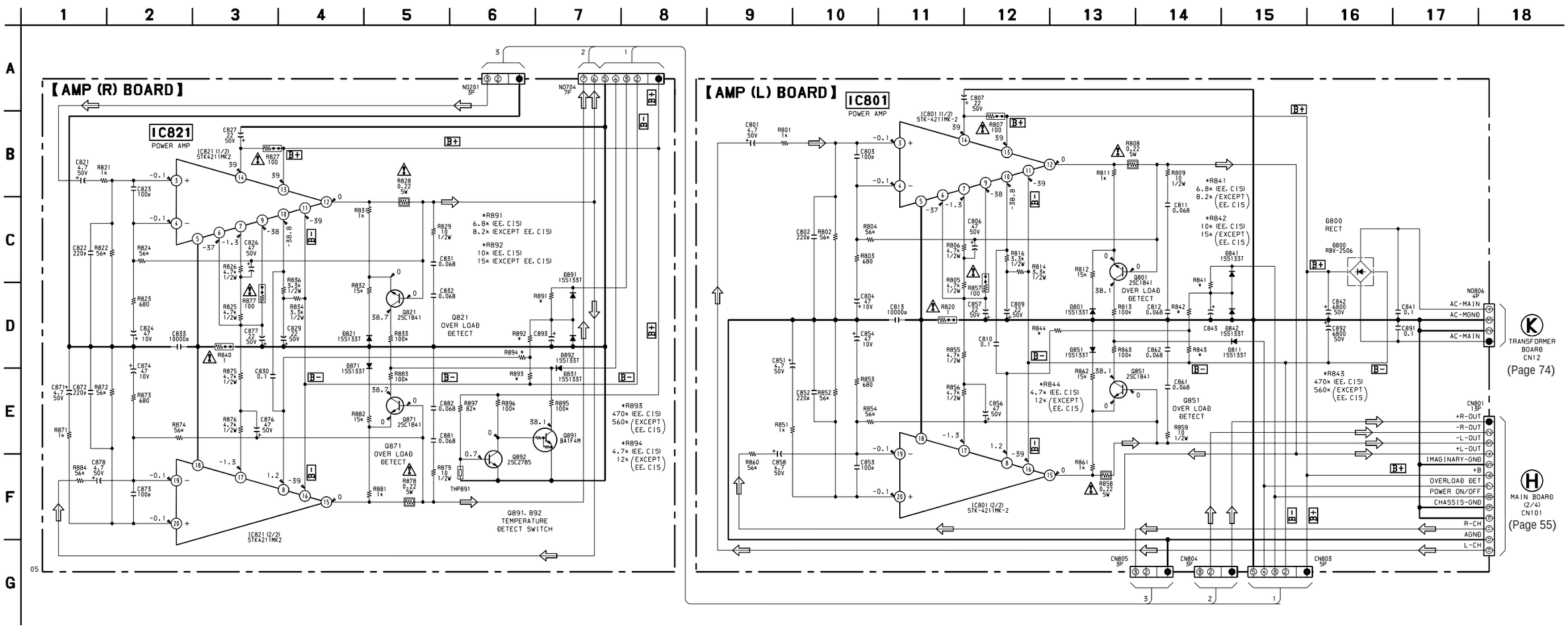
| Ref. No. | Location |
|---|---|
| D821 | B-3 |
| D831 | C-3 |
| D871 | B-2 |
| D891 | C-3 |
| D892 | B-3 |
| IC821 | A-3 |
| Q821 | B-3 |
| Q871 | B-2 |
| Q891 | A-4 |
| Q892 | A-4 |




• **Semiconductor Location AMP (L) BOARD**

| Ref. No. | Location |
|---|---|
| D800 | C-4 |
| D801 | B-2 |
| D811 | D-2 |
| D841 | C-3 |
| D842 | B-3 |
| D851 | E-2 |
| IC801 | C-1 |
| Q801 | B-2 |
| Q851 | E-2 |

## 7-30. SCHEMATIC DIAGRAM – POWER AMP Section –



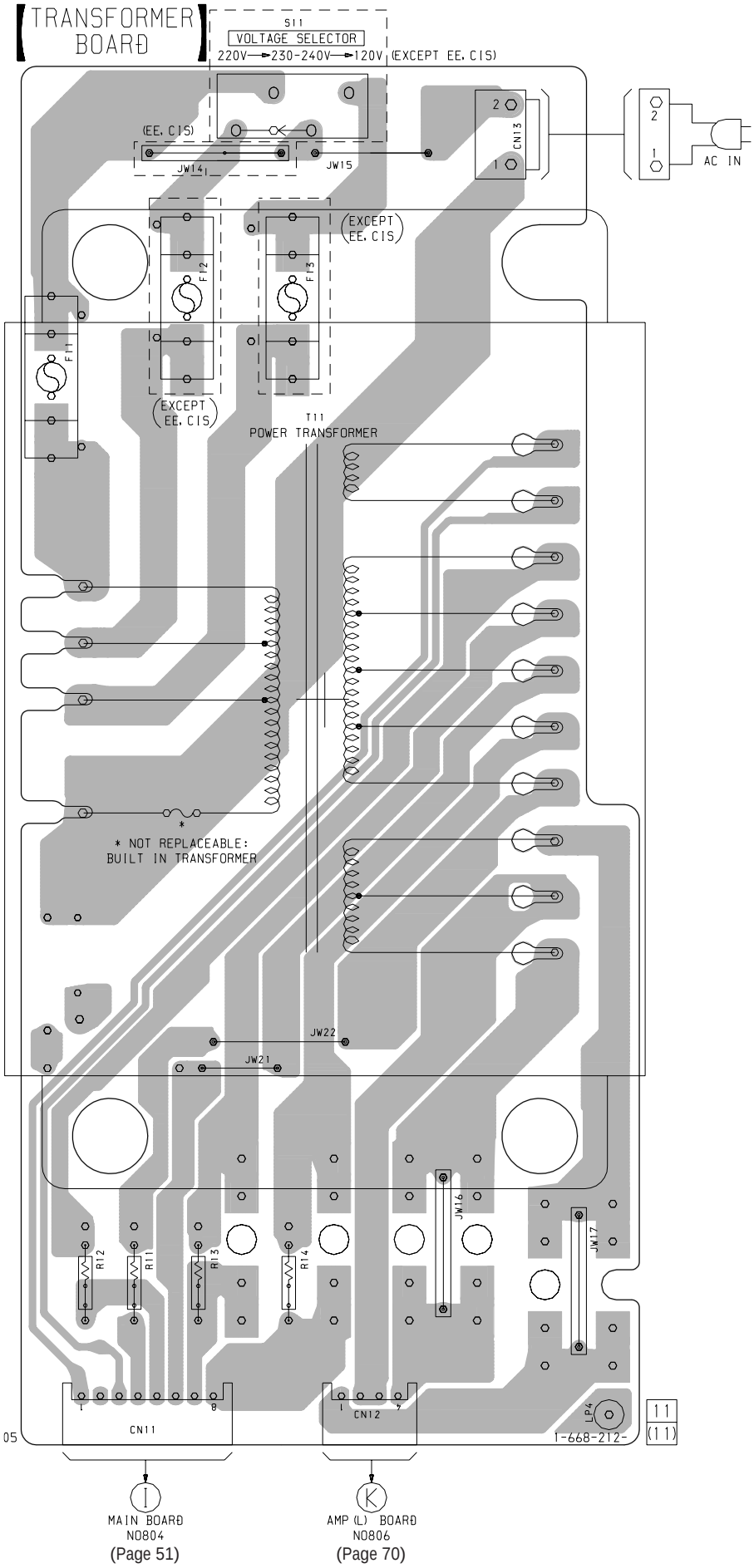

**Note on Schematic Diagram:**

- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM

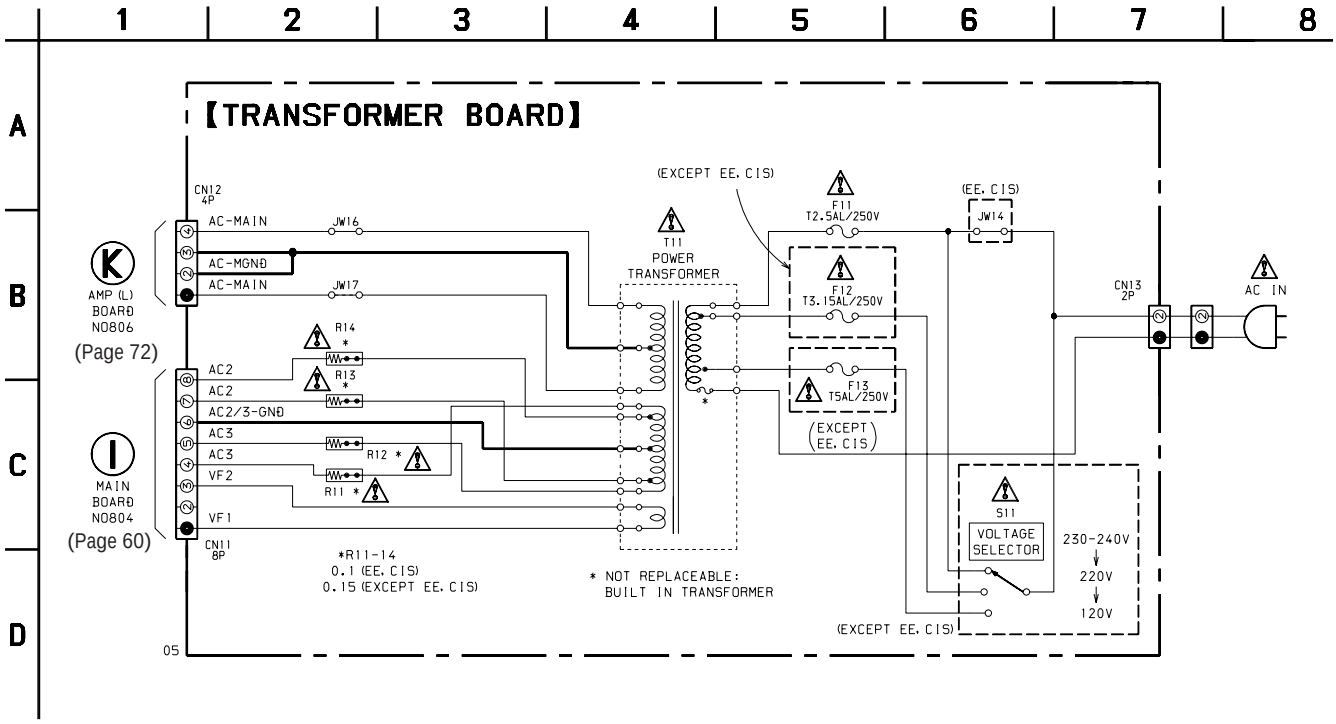
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 7-31. PRINTED WIRING BOARD – TRANSFORMER Section –

**• See page 20 for Circuit Boards Location.**



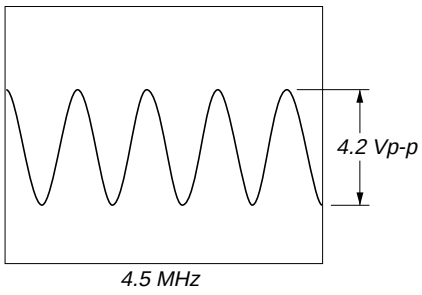
## 7-32. SCHEMATIC DIAGRAM – TRANSFORMER Section –



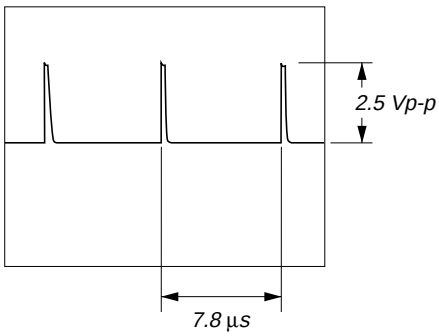

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

**• Waveforms**
**– TCB Board –**
**(East European, CIS)**

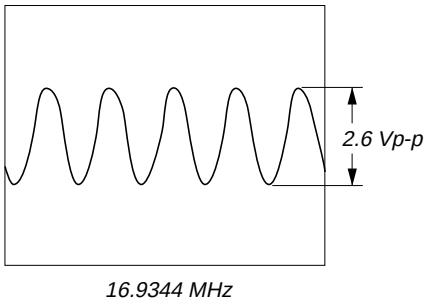
❶ IC21 ㉔ (XOUT)




❹ IC103 ㉗ (MDP)

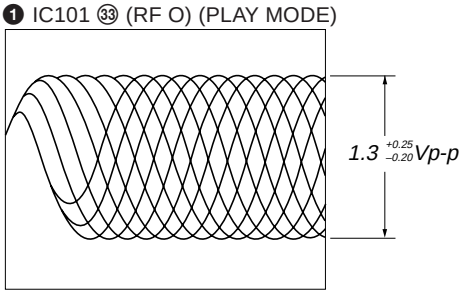



❽ IC103 ㊽ (XTAI)

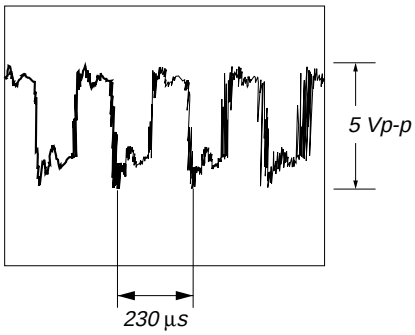



**– BD Board –**

❶ IC101 ㉝ (RF O) (PLAY MODE)

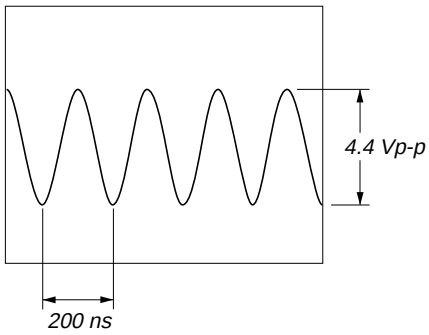



❺ IC103 ㊿ (XPCK)

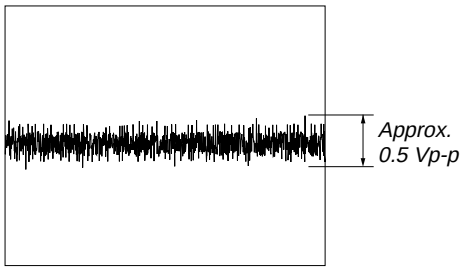



**– MAIN Board –**

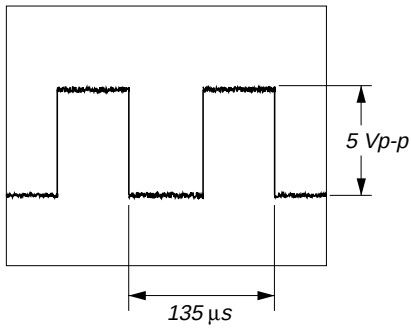
❶ IC501 ⑪ (X1)



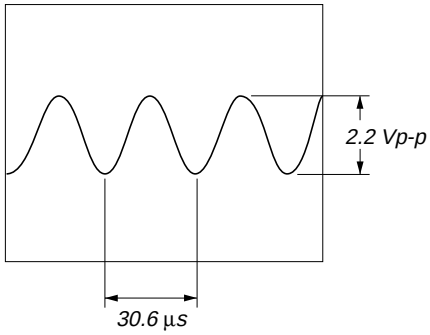

❷ IC101 ② (FEI) (PLAY MODE)




❻ IC103 ㊷ (RFCK)

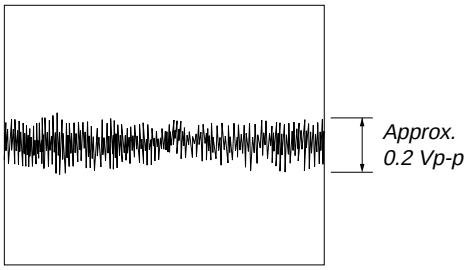



❷ IC501 ⑭ (XT1)

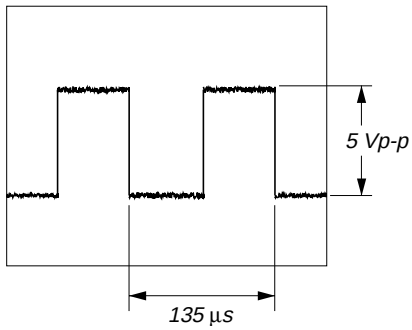



**– PANEL Board –**

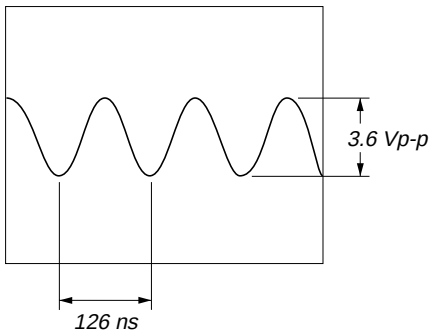
❸ IC101 ㊼ (TEI) (PLAY MODE)




❼ IC103 ㉞ (WFCK)



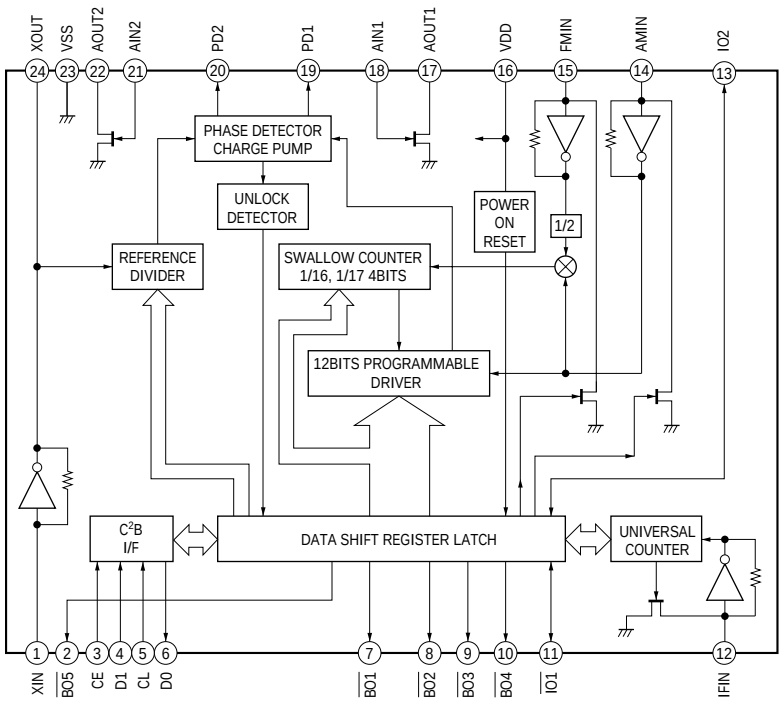

❸ IC601 ⑨ (X-IN)



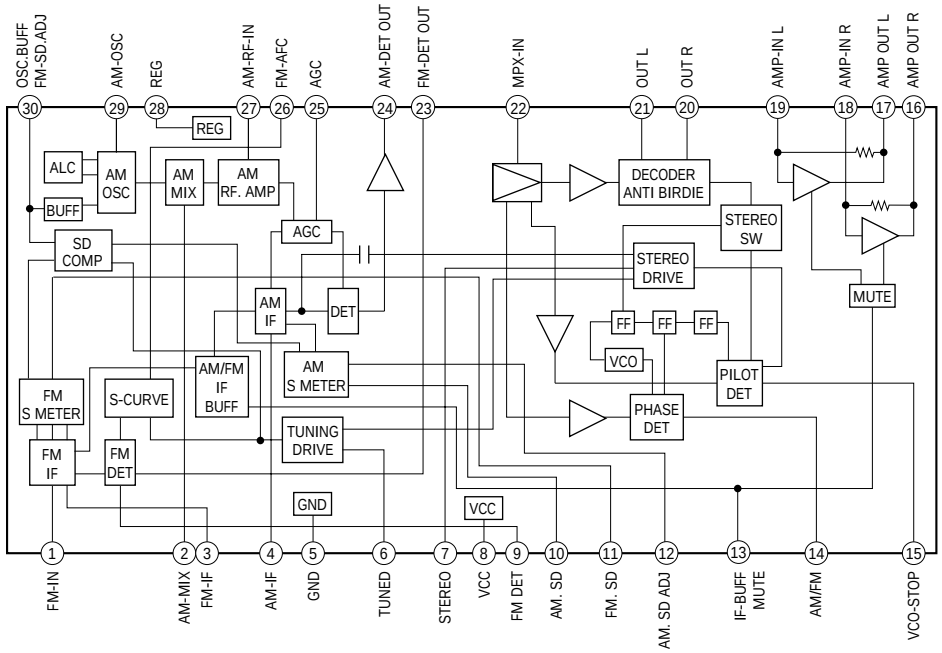
**• IC Block Diagrams**

**– TCB Board –**

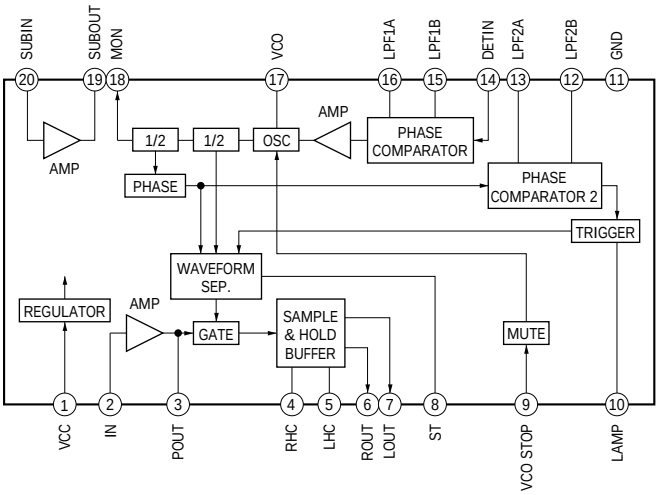
**IC21 LC72130 (East European, CIS models)**



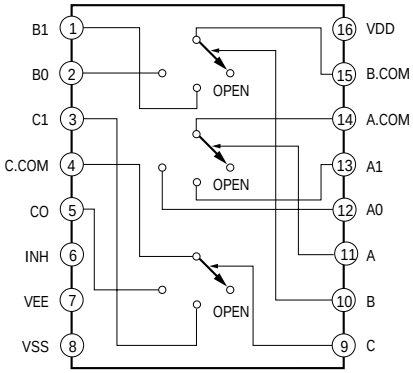

**IC41 LA1838 (East European, CIS models)**



**IC1701 IR3R42 (East European, CIS models)**

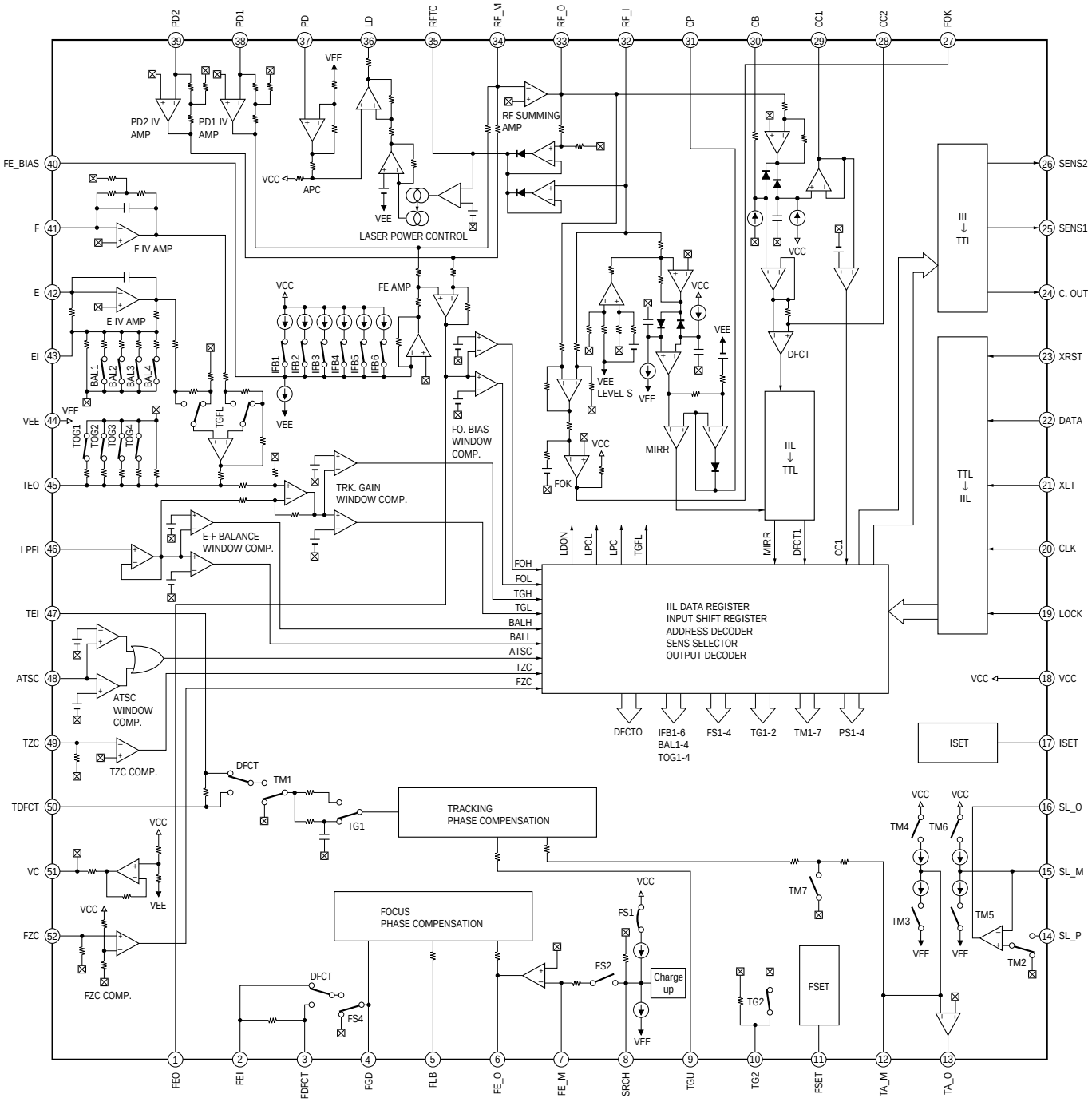



**IC1702 µPD4053BC (East European, CIS models)**

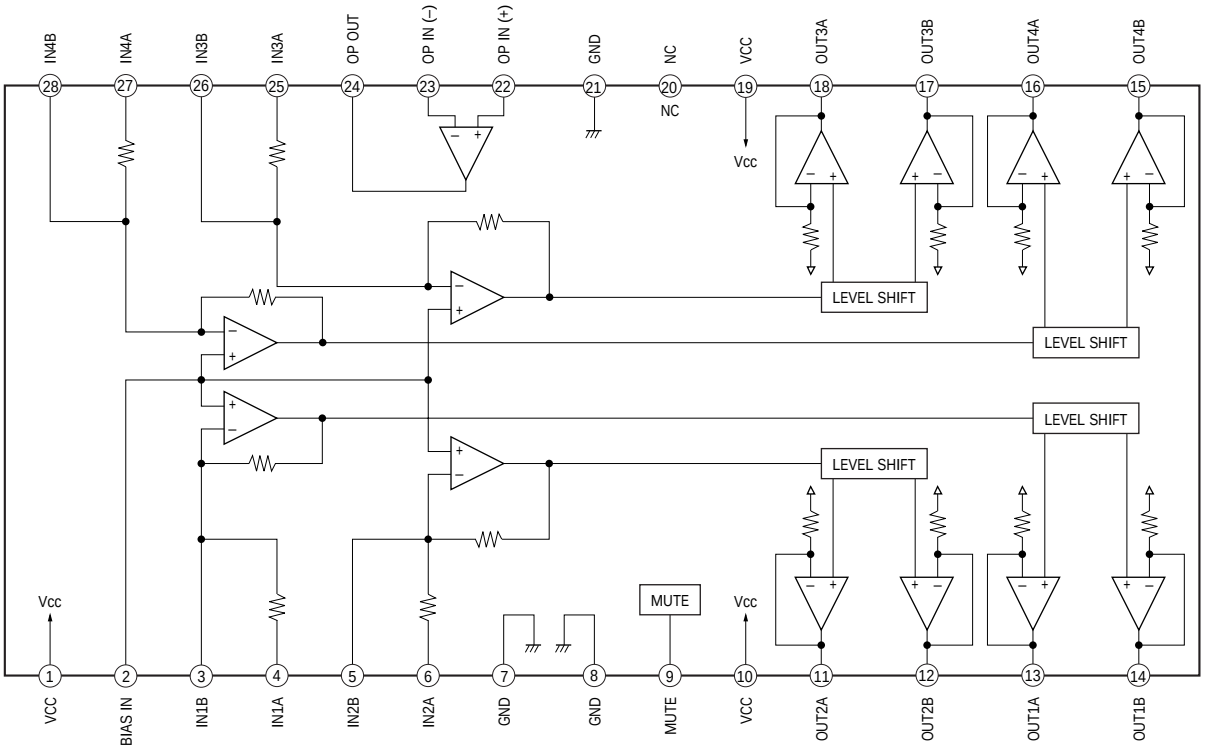


**– BD Board –**

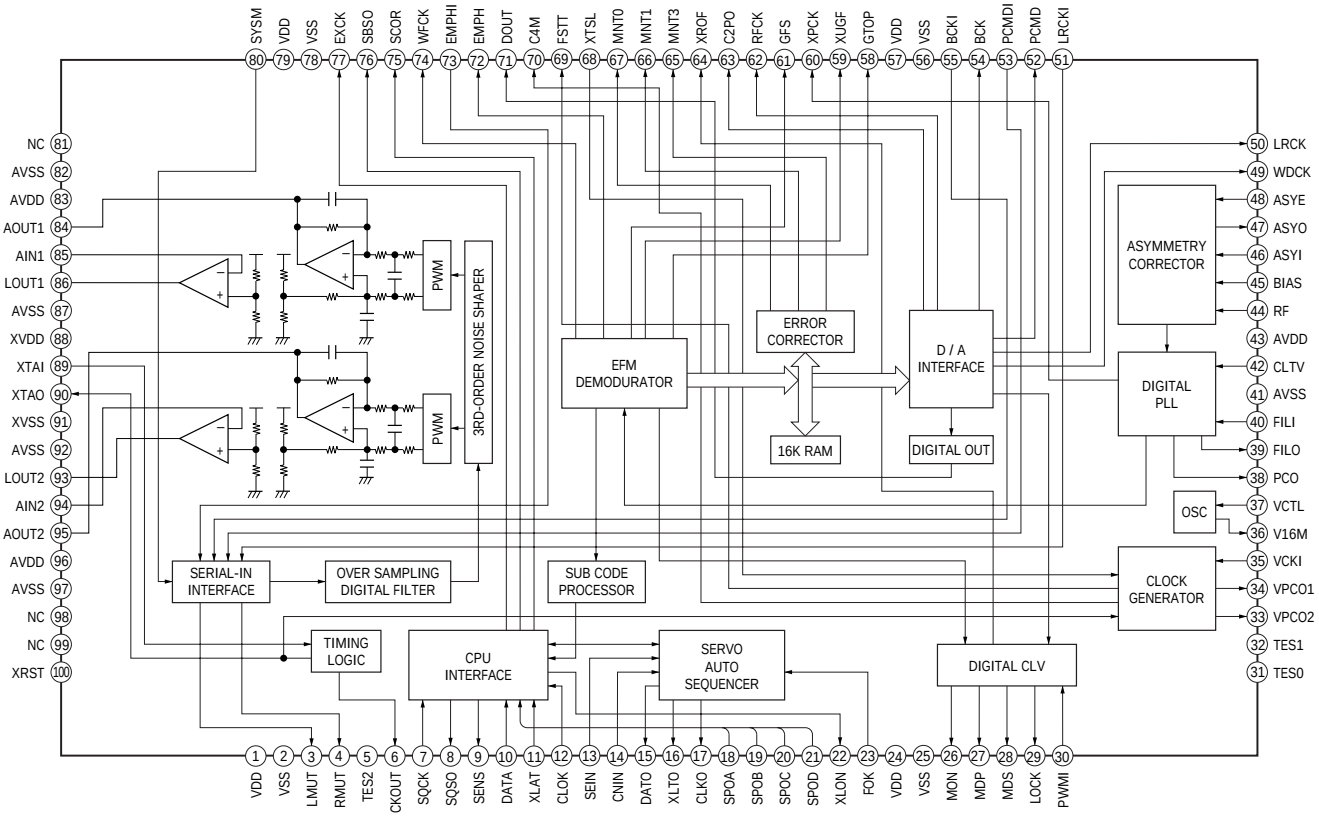
**IC101 CXA1992AR**



## IC102 BA5941FP-E2

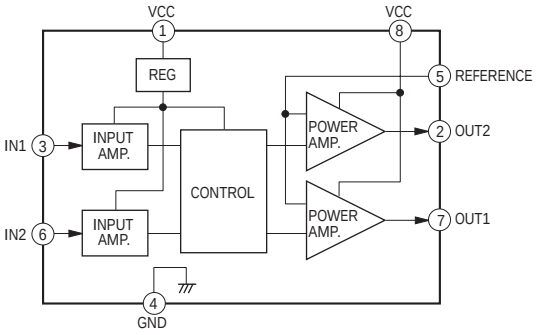



## IC103 CXD2519Q



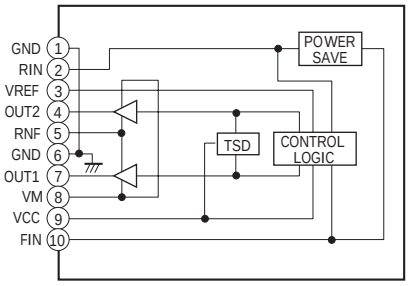
**– MOTOR (TURN) Board –**

**IC701 M54641L**



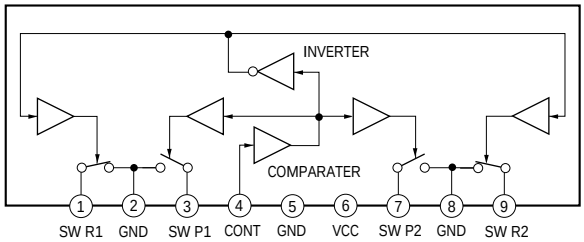

**– MOTOR (SLIDE) Board –**

**IC801 BA6286N**



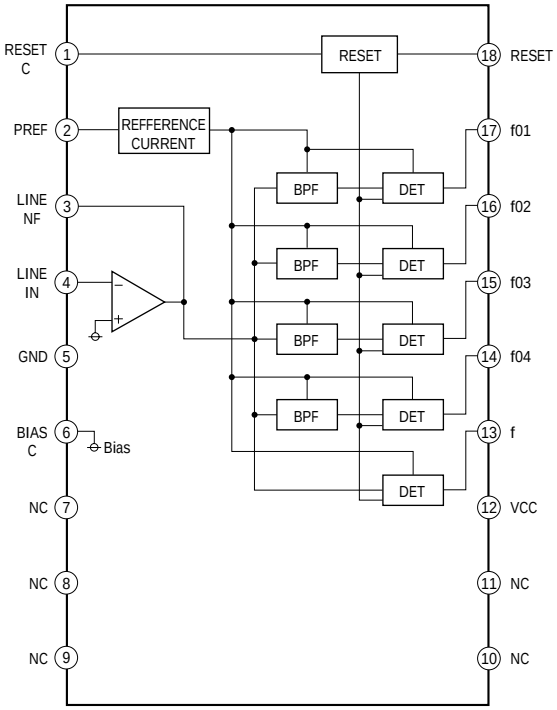

**– AUDIO Board –**

**IC602 µPC1330HA**




**– PANEL Board –**

**IC603 BA3833F-E2**



## 7-33. IC PIN FUNCTION DESCRIPTION

**• MAIN BOARD IC501 μPD780018AYGF-012-3BA (SYSTEM CONTROLLER)**

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | LINE-MUTE | O | Line muting on/off control signal output terminal "L": muting on |
| 2 | DBFB-H/L | O | DBFB normal/high selection signal output to the M62442FP (IC101)<br>"L": DBFB high, "H": DBFB low |
| 3 | M62442-LATCH | O | Serial data latch pulse output to the M62442FP (IC101) |
| 4 | KEYCON-LATCH | O | Serial data latch pulse output terminal Not used (open) |
| 5 | POWER | O | Power on/off control signal output for the audio system (+5V) and deck, panel, audio system (+7V) "L": power on, "H": standby |
| 6 | F-RELAY | O | Relay drive signal output for the speaker protect "H": on |
| 7 | R-RELAY | O | Relay drive signal output for the speaker protect "H": on Not used (open) |
| 8 | PL-RELAY | O | Relay drive signal output for the speaker protect "H": on Not used (open) |
| 9 | VPP | — | Ground terminal |
| 10 | X2 | O | Main system clock output terminal (5 MHz) |
| 11 | X1 | I | Main system clock input terminal (5 MHz) |
| 12 | VDD | — | Power supply terminal (+5V) |
| 13 | XT2 | O | Sub system clock output terminal (32.768 kHz) |
| 14 | XT1 | I | Sub system clock input terminal (32.768 kHz) |
| 15 | $\overline{\text{RESET}}$ | I | System reset signal input from the reset signal generator (IC502) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 16 | $\overline{\text{AC-CUT}}$ | I | AC off detection signal input from the reset signal generator (IC502) |
| 17 | CAPM-CNT1P | O | Capstan motor (M1) drive signal output terminal |
| 18 | SCOR | I | Subcode sync (S0+S1) detection signal input from the CXD2519Q (IC103) |
| 19 | SOFT-TEST | O | Output terminal for the software test (open) |
| 20 | NCO | O | Not used (open) |
| 21 | RDS-INT | I | Serial data reading clock signal input terminal Not used (fixed at "L") |
| 22 | RDS-DATA | I | Serial data input terminal Not used (fixed at "L") |
| 23 | AVDD | — | Power supply terminal (+5V) (for A/D conversion) |
| 24 | AVREF | I | Reference voltage (+5V) input terminal (for A/D conversion) |
| 25 | ADJ | I | Setting terminal for the CD test mode Normally: fixed at "H" |
| 26 | A-SHUT | I | Shut off detection signal input from the deck-A side reel pulse detector (IC1001) |
| 27 | B-SHUT | I | Shut off detection signal input from the deck-B side reel pulse detector (IC1002) |
| 28 | B-HALF | I | Detection input from the deck-B half detect switch (S1006) |
| 29 | CLK-CHECK | I | Not used (fixed at "L") |
| 30 | SPEC-IN | I | Setting terminal for the version |
| 31 | AMS-IN | I | Automatic music sensor detection signal input from the HA12215F (IC301) |
| 32 | DEMO-CHANGE | I | Setting terminal for the demonstration H/L Fixed at "L" |
| 33 | AVSS | — | Ground terminal (for A/D conversion) |
| 34 | SQ-DATA-IN | I | Sub-code Q data input from the CXD2519Q (IC103) |
| 35 | NCO | O | Not used (open) |
| 36 | SQ-CLK<br>(D-OUT ON/OFF) | O | Sub-code Q data reading clock signal output to the CXD2519Q (IC103) |
| 37 | SUPERWOOFER-<br>ON/OFF | O | Super woofer speaker on/off control signal output terminal Not used (open) |
| 38 | SUPERWOOFER<br>MODE | O | Super woofer speaker mode control signal output terminal Not used (open) |
| 39 | NIL | I | Not used (fixed at "L") |
| 40 | VSS | — | Ground terminal |
| 41 | DELAY-CONT | O | Serial data latch pulse output terminal Not used (open) |
| 42 | PL-LATCH | O | Serial data latch pulse output terminal Not used (open) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 43 | COM-DIN | I | Serial data input terminal Not used (fixed at "L") |
| 44 | COM-DOUT | O | Serial data output terminal Not used (open) |
| 45 | COM-CLK | O | Serial data transfer clock signal output terminal Not used (open) |
| 46 | CD-POWER | O | Power on/off control signal output for the CD mechanism deck section<br>"H": power on, "L": standby |
| 47 | CD-DATA | O | Serial data output to the CXD2519Q (IC103) |
| 48 | CD-CLK | O | Serial data transfer clock signal output to the CXD2519Q (IC103) |
| 49 | PL-CLK | O | Serial data transfer clock signal output terminal Not used (open) |
| 50 | PL-DATA | O | Serial data output terminal Not used (open) |
| 51 | M62442-CLK | O | Serial data transfer clock signal output to the M62442FP (IC101) |
| 52 | M62442-DATA | O | Serial data output to the M62442FP (IC101) |
| 53 | LEVEL-CONT-A | O | Level control signal output terminal Not used (open) |
| 54 | LEVEL-CONT-B | O | Level control signal output terminal Not used (open) |
| 55 | IIC-DATA | I/O | Communication data bus with the fluorescent indicator tube driver (IC601) |
| 56 | IIC-CLK | I/O | Communication data reading clock signal input or transfer clock signal output with the fluorescent indicator tube driver (IC601) |
| 57 | $\overline{\text{XRST}}$ | O | Reset signal output to the CXA1992AR (IC101), BA5941FP (IC102) and CXD2519Q (IC103) on the CD mechanism deck section "L": reset |
| 58 | XLT | O | Serial data latch pulse output to the CXD2519Q (IC103) |
| 59 | FOCUS-SW | O | Focus control signal output terminal Not used (open) |
| 60 | TBL-L | O | Motor drive signal output to the disc tray turn motor driver (IC701) *1 |
| 61 | TBL-R | O | Motor drive signal output to the disc tray turn motor driver (IC701) *1 |
| 62 | NCO | O | Not used (open) |
| 63 | LOAD-OUT | O | Motor drive signal output to the disc tray slide motor driver (IC801) *2 |
| 64 | LOAD-IN | O | Motor drive signal output to the disc tray slide motor driver (IC801) *2 |
| 65 | ST-CLK | O | PLL serial data transfer clock signal output to the FM/AM tuner unit or PLL (IC21) |
| 66 | ST-DIN | I | PLL serial data input from the FM/AM tuner unit or PLL (IC21) |
| 67 | ST-DOUT | O | PLL serial data output to the FM/AM tuner unit or PLL (IC21) |
| 68 | ST-CE | O | PLL chip enable signal output to the FM/AM tuner unit or PLL (IC21) |
| 69 | TUNED | I | Tuning detection signal input from the FM/AM tuner unit or LA1838 (IC41) "L": tuned |
| 70 | STEREO | I | FM stereo detection signal input from the FM/AM tuner unit or LA1838 (IC41) "L": stereo |
| 71 | VSS | — | Ground terminal |
| 72 | ST-MUTE | O | Tuner muting control signal output to the FM/AM tuner unit or LA1838 (IC41) "L": muting on |
| 73 | SENS2 | I | Internal status (SENSE) signal input from the CXA1992AR (IC101) |
| 74 | SENS | I | Internal status (SENSE) signal input from the CXD2519Q (IC103) |

*1 Disc tray turn motor (M701) control

| Mode / Terminal | STOP | COUNTER-CLOCKWISE | CLOCKWISE | BRAKE |
|---|---|---|---|---|
| TBL-L (pin ⑥⓪) | "H" | "L" | "H" | "L" |
| TBL-R (pin ⑥①) | "H" | "H" | "L" | "L" |

*2 Disc tray slide motor (M801) control

| Mode / Terminal | STOP | TABLE IN | TABLE OUT | BRAKE |
|---|---|---|---|---|
| LOAD-OUT (pin ⑥③) | "H" | "H" | "L" | "L" |
| LOAD-IN (pin ⑥④) | "H" | "L" | "H" | "L" |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 75 | DISC-SENS | I | Disc status detection signal input from the disc sensor (IC703) |
| 76 | TBL-SENS | I | Disc tray status detection signal input from the disc tray sensor (IC702) |
| 77 | CAPM-CNT2P | O | Capstan motor drive signal output terminal Not used (open) |
| 78 | ENC3 | I | Detection signal input from the disc tray address detect rotary encoder (S811) |
| 79 | ENC2 | I | |
| 80 | ENC1 | I | |
| 81 | OUT-OPEN | I | Detection signal input from the disc tray open/close detect switch (S801)<br>"L": open, "H": close |
| 82 | CAP-M-H/L | O | High/normal speed selection signal output of the capstan motor (M1)<br>"L": high speed, "H": normal speed |
| 83 | B-TRG | O | Deck-B side trigger plunger (SL2) drive signal output terminal |
| 84 | A-TRG | O | Deck-A side trigger plunger (SL1) drive signal output terminal |
| 85 | CAPM-CNT1M | O | Capstan motor (M1) drive signal output terminal |
| 86 | CAPM-CNT2M | O | Capstan motor (M1) drive signal output terminal |
| 87 | TC-MUTE | O | Line muting on/off selection signal output to the HA12215F (IC301)<br>"L": muting off, "H": muting on |
| 88 | R/P-PASS | O | Recording/playback/pass selection signal output to the HA12215F (IC301)<br>"L": recording mode |
| 89 | NR-ON/OFF | O | Dolby NR on/off selection signal output to the HA12215F (IC301)<br>"L": dolby off, "H": dolby on |
| 90 | REC-MUTE | O | Recording muting on/off selection signal output to the HA12215F (IC301)<br>"L": muting on, "H": muting off |
| 91 | CLK-OUT | O | Clock output for the check Not used (open) |
| 92 | BIAS | O | Recording bias on/off selection signal output to the HA12215F (IC301)<br>"L": bias off, "H": bias on |
| 93 | EQ-H/N | O | Normal/high speed selection signal output to the HA12215F (IC301)<br>"L": normal speed, "H": high speed |
| 94 | PB-A/B | O | Deck-A/B selection signal output to the HA12215F (IC301) "L": deck-A, "H": deck-B |
| 95 | A-PLAY-SW | I | Detection input from the deck- A play detect switch (S1001) "H": deck-A play |
| 96 | B-PLAY-SW | I | Detection input from the deck- B play detect switch (S1002) "H": deck-B play |
| 97 | TC-RELAY | O | Recording/playback select signal output to the REC/PB switch (IC602)<br>"L": playback, "H": recording |
| 98 | A-HALF | I | Detection input from the deck-A cassette detect switch (S1003)<br>"L": cassette in, "H": no cassette |
| 99 | ALC-ON/OFF | O | Automatic limiter control signal output to the HA12215F (IC301) "L": limiter on |
| 100 | STK-MUTE | O | Power amplifier on/off selection signal output terminal "L": on, "H": standby |

• **PANEL BOARD IC601 TMP87CM74AF-6671**

**(FLUORESCENT INDICATOR TUBE DRIVE, LED DRIVE, KEY CONTROL)**

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | LED3 | O | LED drive signal output terminal Not used (open) |
| 2 | LED4 | O | LED drive signal output terminal Not used (open) |
| 3 | LED5 | O | LED drive signal output terminal (DISC 3) |
| 4 | LED6 | O | LED drive signal output terminal (DISC 2) |
| 5 | LED7 | O | LED drive signal output terminal (DISC 1) |
| 6 | LED8 | O | LED drive signal output terminal (ENTER/NEXT, GROOVE) |
| 7 | VSS | — | Ground terminal |
| 8 | X-OUT | O | System clock output terminal (8 MHz) |
| 9 | X-IN | I | System clock input terminal (8 MHz) |
| 10 | $\overline{\text{RESET}}$ | I | System reset signal input from the reset signal generator (IC502) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 11 | LED9 | O | LED drive signal output terminal (JOG, DJ MIX) |
| 12 | LED10 | O | LED drive signal output terminal (NON-STOP, + ▶▶, – ◀◀) |
| 13 | TEST | I | Connected to ground |
| 14 | LED11 | O | LED drive signal output terminal Not used (open) |
| 15 | LED12 | O | LED drive signal output terminal (EFFECT) |
| 16 | LED13 | O | LED drive signal output terminal (CD ▶ ❚❚) |
| 17 | LED14 | O | LED drive signal output terminal (TAPE B ▶/◀) |
| 18 | LED15 | O | LED drive signal output terminal (TAPE A ▶/◀) |
| 19 | VOL-A | I | Rotary encoder pulse input from the S602 (VOLUME) |
| 20 | VOL-B | I | Rotary encoder pulse input from the S602 (VOLUME) |
| 21 | JOG-A | I | Jog dial pulse input from the S601 (⏮ ↔ ⏭ DJ MIX) |
| 22 | JOG-B | I | Jog dial pulse input from the S601 (⏮ ↔ ⏭ DJ MIX) |
| 23 | SCL | I/O | Communication data reading clock signal input or transfer clock signal output with the system controller (IC501) |
| 24 | SDA | I/O | Communication data bus with the system controller (IC501) |
| 25 | L.SEL | O | LED selection signal output terminal |
| 26 | KEY-0 | I | Key input terminal (A/D input) (S604 to 617)<br>EFFECT, SURROUND, KARAOKE PON/MPX, ■, TIMER SELECT, CLOCK/TIMER SET, DISPLAY/DEMO, FILE SELECT, GEQ CONTROL, P FILE MEMORY, FUNCTION, REPEAT STEREO/MONO, EDIT DIRECTION, PLAY MODE DOLBY NR TUNER MEMORY keys input |
| 27 | KEY-1 | I | Key input terminal (A/D input) (S619 to 625)<br>FLASH, NON-STOP, – ◀◀, ENTER/NEXT, + ▶▶ , DBFB, GROOVE keys input |
| 28 | KEY-2 | I | Key input terminal (A/D input) (S631 to 642)<br>TUNER BAND, CD ▶ ❚❚, TAPE B ▶/◀, TAPE A ▶/◀, ON/STANDBY, DISC 1/2/3, DISC SKIP/EX-CHANGE, ⏏ keys input |
| 29 | KEY-3 | I | Key input terminal (A/D input) (S618, 656 to 659)<br>● REC, ❚❚ PAUSE, HI-DUB, CD SYNC, keys input |
| 30 | MODEL | I | Destination setting terminal |
| 31 | SPEANA RESET | O | Reset signal output the spectrum analyzer band-pass filter (IC603) "H": reset |
| 32 | L+R | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for VACS, non-stop signal) |
| 33 | SIRCS | I | Remote control signal input from the remote control receiver (IC602) |
| 34 | SPEANA-1 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for low frequency) |

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 35 | SPEANA-2 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for low and middle frequency) |
| 36 | SPEANA-3 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for middle and high frequency) |
| 37 | SPEANA-4 | I | Spectrum analyzer drive signal input from the spectrum analyzer band-pass filter (IC603) (for high frequency) |
| 38 | VASS | — | Ground terminal (for A/D conversion) |
| 39 | VAREF | I | Reference voltage (+5V) input terminal (for A/D conversion) |
| 40 | VDD | — | Power supply terminal (+5V) |
| 41 to 53 | GR1 to GR13 | O | Grid drive signal output to the fluorescent indicator tube (FL601) |
| 54 to 69 | SEG1 to SEG16 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 70 to 72 | SEG19 to SEG17 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 73 to 77 | SEG24 to SEG20 | O | Segment drive signal output to the fluorescent indicator tube (FL601) |
| 78 | VKK | — | Power supply terminal (–30V) (for fluorescent indicator tube drive) |
| 79 | LED1 | O | LED drive signal output terminal (● REC, ❚❚ PAUSE) |
| 80 | LED2 | O | LED drive signal output terminal Not used (open) |

# SECTION 8
# EXPLODED VIEWS

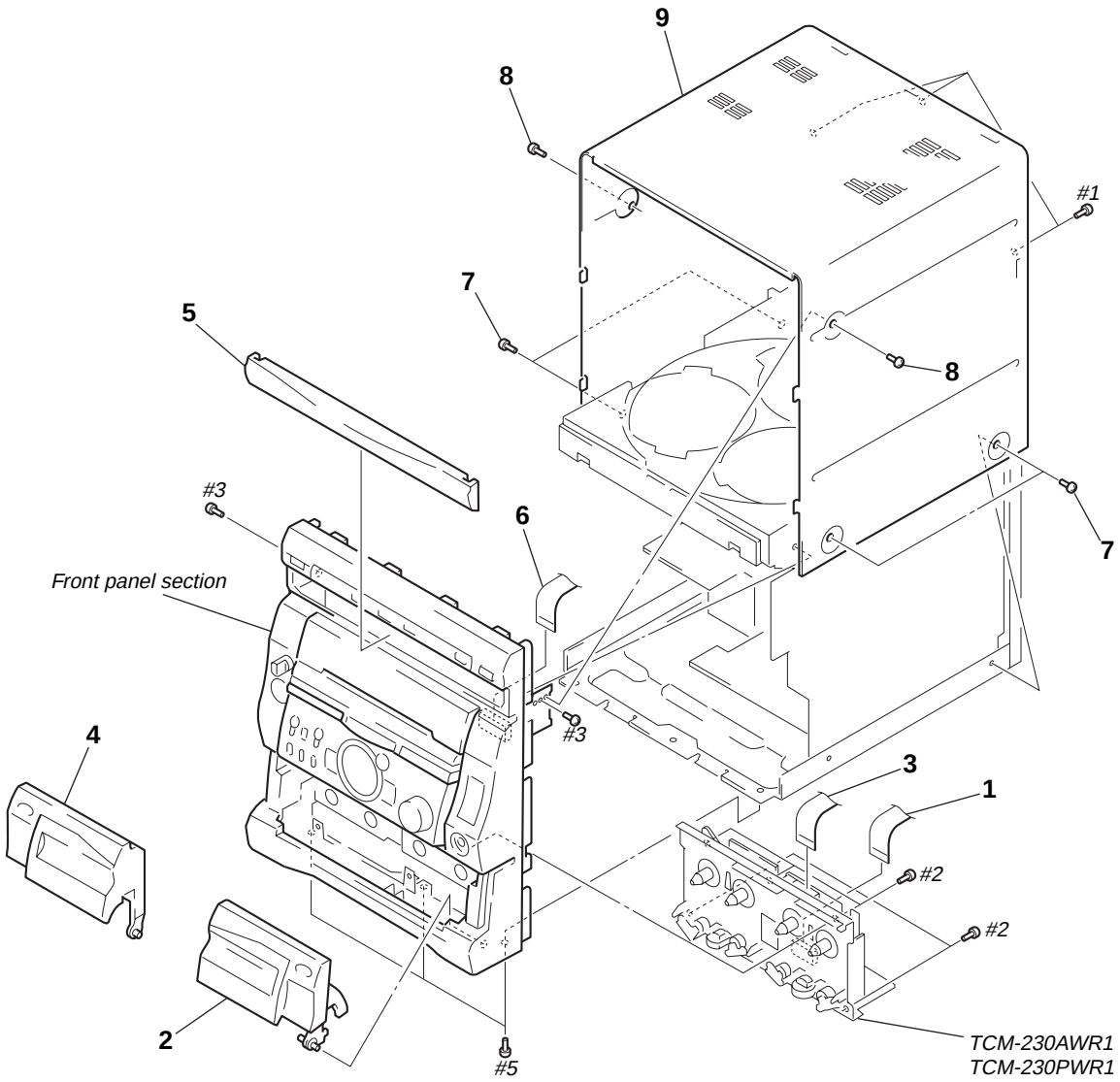
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  EA : Saudi Arabia
  EE : East European
  IA : Indonesia
  MY : Malaysia
  SP : Singapore

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

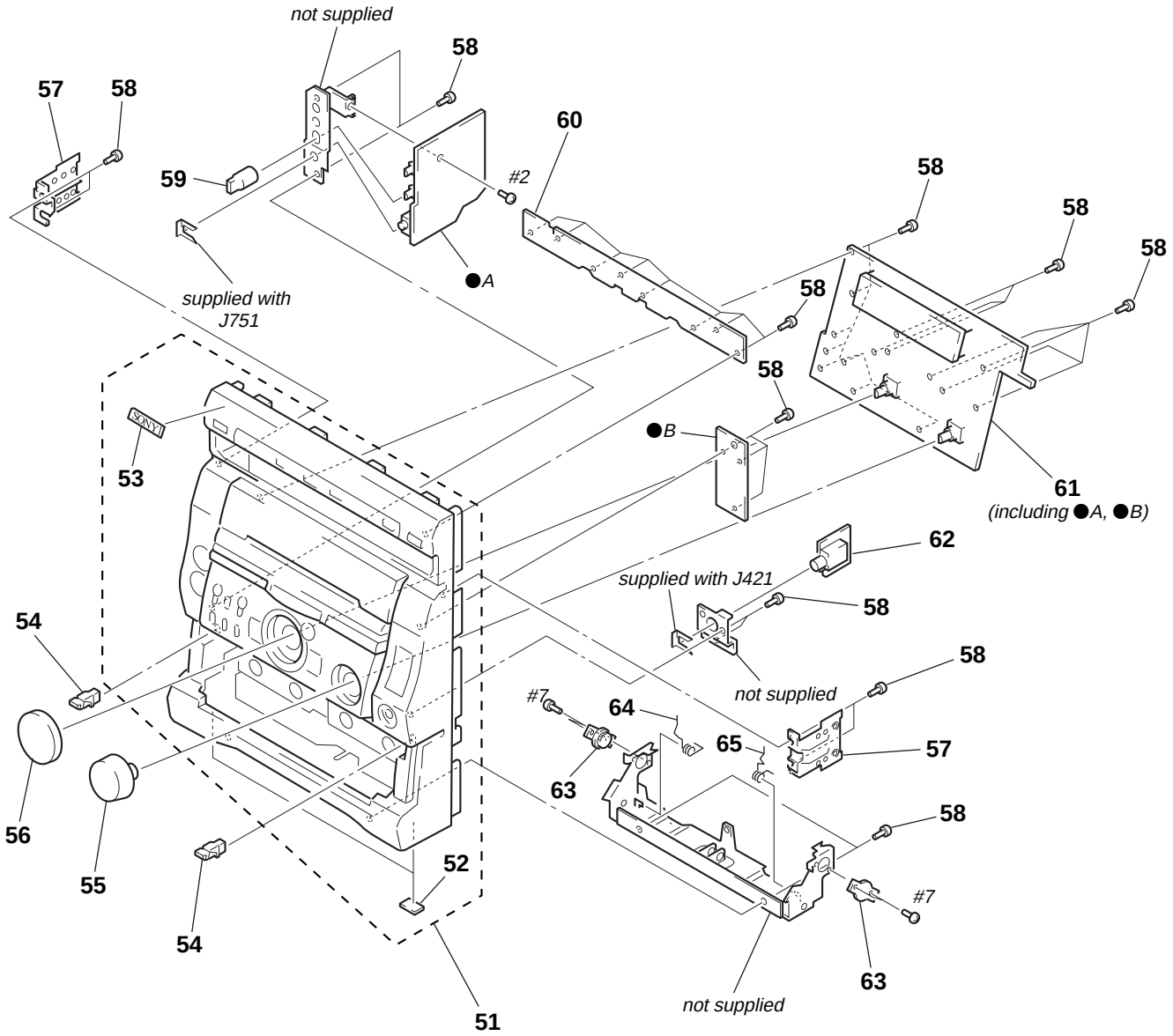
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## (1) CASE SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 1-773-025-11 | WIRE (FLAT TYPE) (15 CORE) (33cm) | |
| 2 | X-4949-350-1 | LID (R) ASSY, CASSETTE | |
| 3 | 1-773-048-11 | WIRE (FLAT TYPE) (17 CORE) | |
| 4 | X-4949-349-1 | LID (L) ASSY, CASSETTE | |
| 5 | 4-996-703-51 | PANEL, LOADING (EE, CIS) | |
| 5 | 4-996-703-61 | PANEL, LOADING (E, EA, MY, SP) | |
| 6 | 1-769-984-11 | WIRE (FLAT TYPE) (13 CORE) (23cm) | |
| 7 | 3-363-099-11 | SCREW (CASE 3 TP2) (3X8) | |
| 8 | 3-363-099-71 | SCREW (CASE 3 TP2) (3X12) | |
| * 9 | 4-996-728-01 | CASE (EXCEPT IA) | |
| * 9 | 4-996-728-21 | CASE (IA) | |

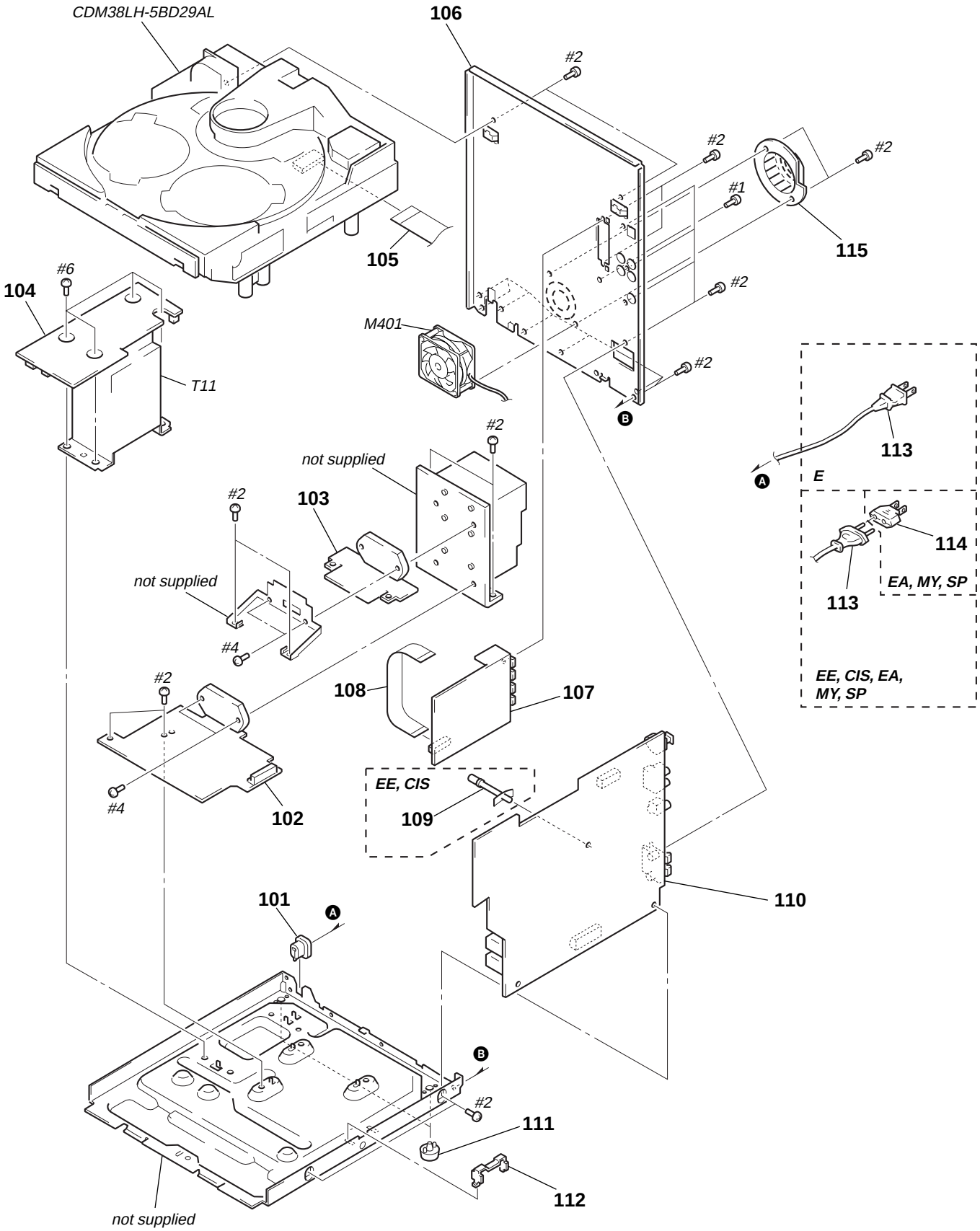
## (2) FRONT PANEL SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | X-4949-385-1 | PANEL ASSY, FRONT | |
| 52 | 4-930-336-61 | FOOT (FELT) | |
| 53 | 4-962-708-11 | EMBLEM (4-A), SONY | |
| 54 | 4-995-081-01 | LATCH, DC | |
| 55 | 4-996-722-01 | KNOB (VOL) | |
| 56 | 4-996-721-01 | KNOB (JOG-U4) | |
| * 57 | 4-996-716-01 | HOLDER (CDM) | |
| 58 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| 59 | 4-986-893-51 | KNOB (MICROPHONE) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 60 | 1-668-206-11 | CD-SW BOARD | |
| * 61 | A-4407-170-A | PANEL BOARD, COMPLETE (EE, CIS) | |
| * 61 | A-4407-171-A | PANEL BOARD, COMPLETE (EA) | |
| * 61 | A-4407-172-A | PANEL BOARD, COMPLETE (E, MY, SP) | |
| * 62 | 1-668-209-11 | HP BOARD | |
| * 63 | 3-973-975-21 | DAMPER, OIL | |
| 64 | 4-996-732-01 | SPRING (A DECK) | |
| 65 | 4-996-733-01 | SPRING (B DECK) | |

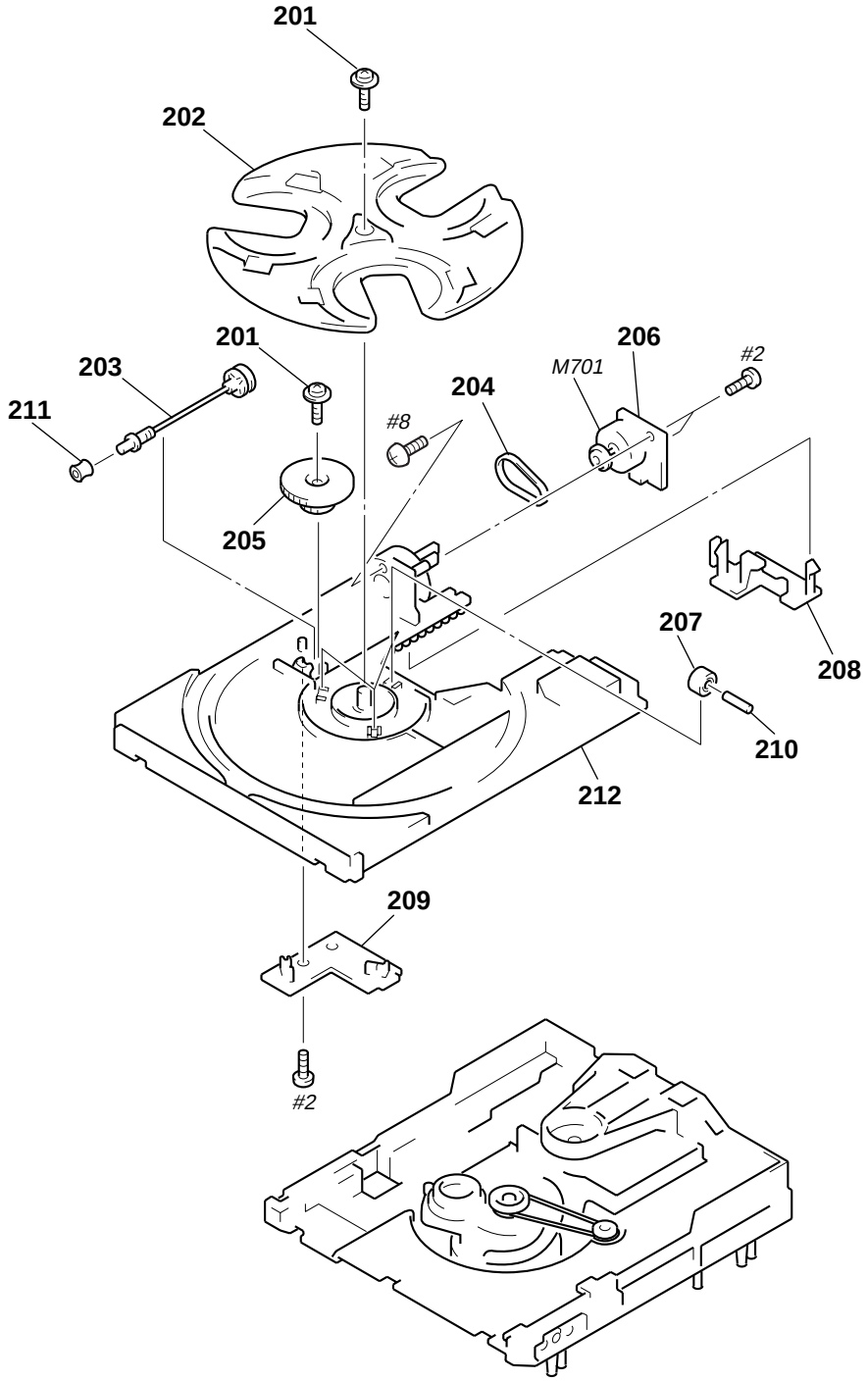
## (3) CHASSIS SECTION



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 101 | 3-703-244-00 | BUSHING (2104), CORD (EE, CIS, EA, MY, SP) | |
| 101 | 3-703-571-11 | BUSHING (S) (4516), CORD (E) | |
| * 102 | A-4407-181-A | AMP (L) BOARD, COMPLETE (EE, CIS) | |
| * 102 | A-4407-182-A | AMP (L) BOARD, COMPLETE (E, EA, MY, SP) | |
| * 103 | A-4407-185-A | AMP (R) BOARD, COMPLETE (EE, CIS) | |
| * 103 | A-4407-186-A | AMP (R) BOARD, COMPLETE (E, EA, MY, SP) | |
| * 104 | 1-668-212-11 | TRANSFORMER BOARD | |
| 105 | 1-783-570-11 | WIRE (FLAT TYPE) (19 CORE) | |
| * 106 | 4-996-846-01 | PANEL, BACK (E) | |
| * 106 | 4-996-846-11 | PAENL, BACK (MY, SP) | |
| * 106 | 4-996-846-21 | PANEL, BACK (EA) | |
| * 106 | 4-996-846-51 | PANEL, BACK (EE, CIS) | |
| 107 | 1-693-420-11 | TUNER (FM/AM) (E) | |
| 107 | 1-693-421-11 | TUNER (FM/AM) (EA, MY, SP) | |
| 107 | A-4303-587-A | TCB BOARD, COMPLETE (EE, CIS) | |
| 108 | 1-769-976-11 | WIRE (FLAT TYPE) (13 CORE) (14cm) (E) | |
| 108 | 1-773-008-11 | WIRE (FLAT TYPE) (15 CORE) (14cm) | (EXCEPT E) |
| 109 | 4-924-098-91 | HOLDER, PC BOARD (EE, CIS) | |
| * 110 | A-4407-152-A | MAIN BOARD, COMPLETE (EE, CIS) | |
| * 110 | A-4407-153-A | MAIN BOARD, COMPLETE (EA, MY, SP) | |
| * 110 | A-4407-154-A | MAIN BOARD, COMPLETE (E) | |
| 111 | 4-965-822-01 | FOOT | |
| * 112 | 4-988-533-01 | HOLDER, PWB | |
| ⚠113 | 1-575-651-11 | CORD, POWER (EE, CIS, EA, MY, SP) | |
| ⚠113 | 1-575-653-11 | CORD, POWER (E) | |
| ⚠114 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (EA, MY, SP) | |
| 115 | 4-999-706-01 | COVER (BPAT) | |
| M401 | 1-763-072-11 | FAN, D.C. | |
| ⚠T11 | 1-431-662-11 | TRANSFORMER, POWER (EE, CIS) | |
| ⚠T11 | 1-431-663-11 | TRANSFORMER, POWER (EXCEPT EE, CIS) | |

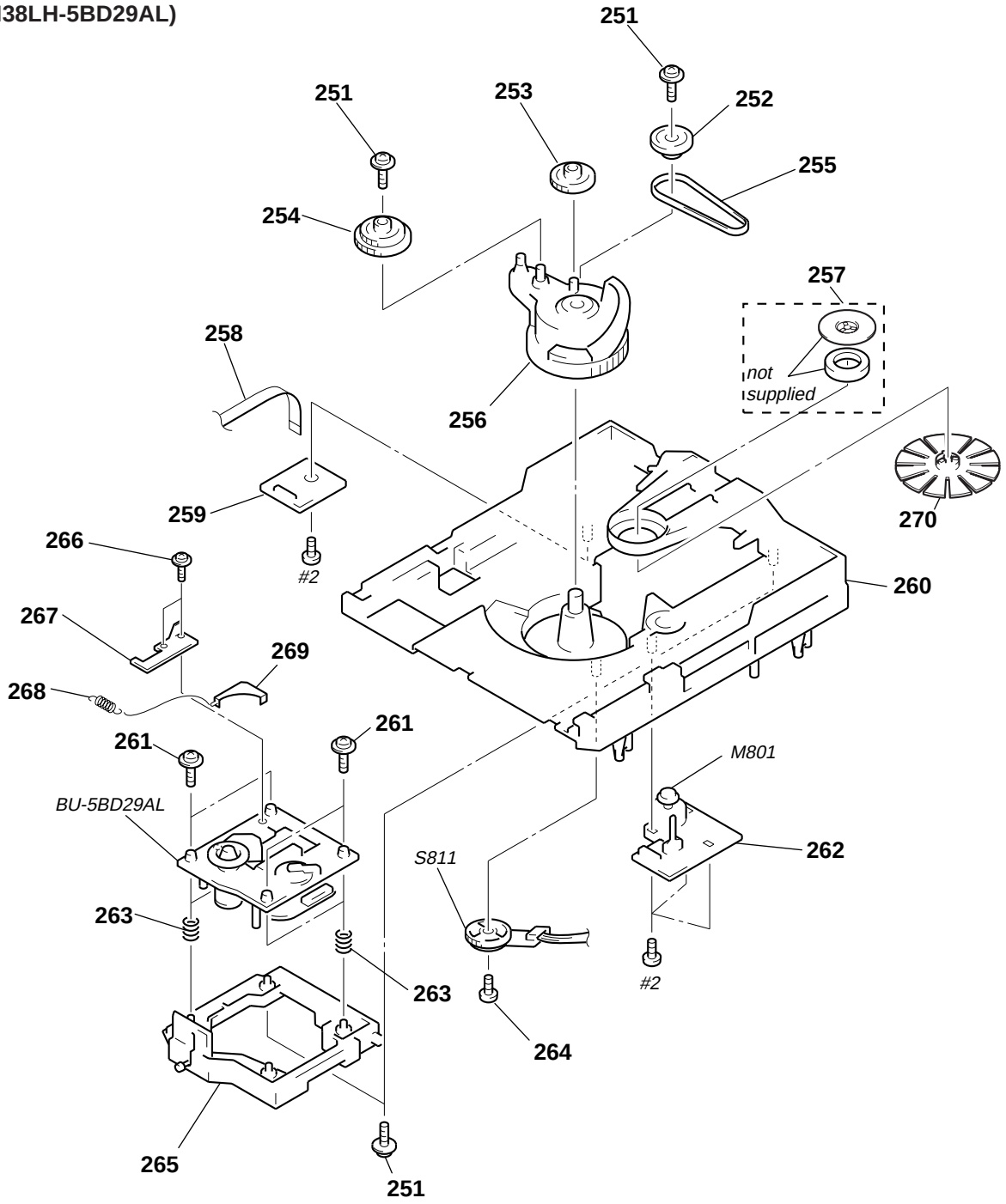
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## (4) CD MECHANISM DECK SECTION-1 (CDM38LH-5BD29AL)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | 4-981-789-11 | BRACKET (2), YOKE | |
| 202 | 4-977-945-01 | TRAY (TURN) | |
| 203 | X-4946-665-1 | SHAFT ASSY, WORM | |
| 204 | 4-977-943-01 | BELT (TURN) (1.2) | |
| 205 | 4-977-956-01 | WHEEL, WORM | |
| * 206 | 1-658-577-11 | MOTOR (TURN) BOARD | |
| 207 | 4-988-162-01 | ROLLER | |
| 208 | 4-977-941-01 | BEARING (WORM) | |
| * 209 | 1-658-576-11 | SENSOR BOARD | |
| 210 | 4-934-376-01 | SHAFT (ROLLER) | |
| 211 | 4-981-187-01 | COLLAR (WORM) | |
| 212 | 4-977-944-01 | TRAY (SLIDE) | |
| M701 | A-4672-004-A | MOTOR ASSY (TURN) | |

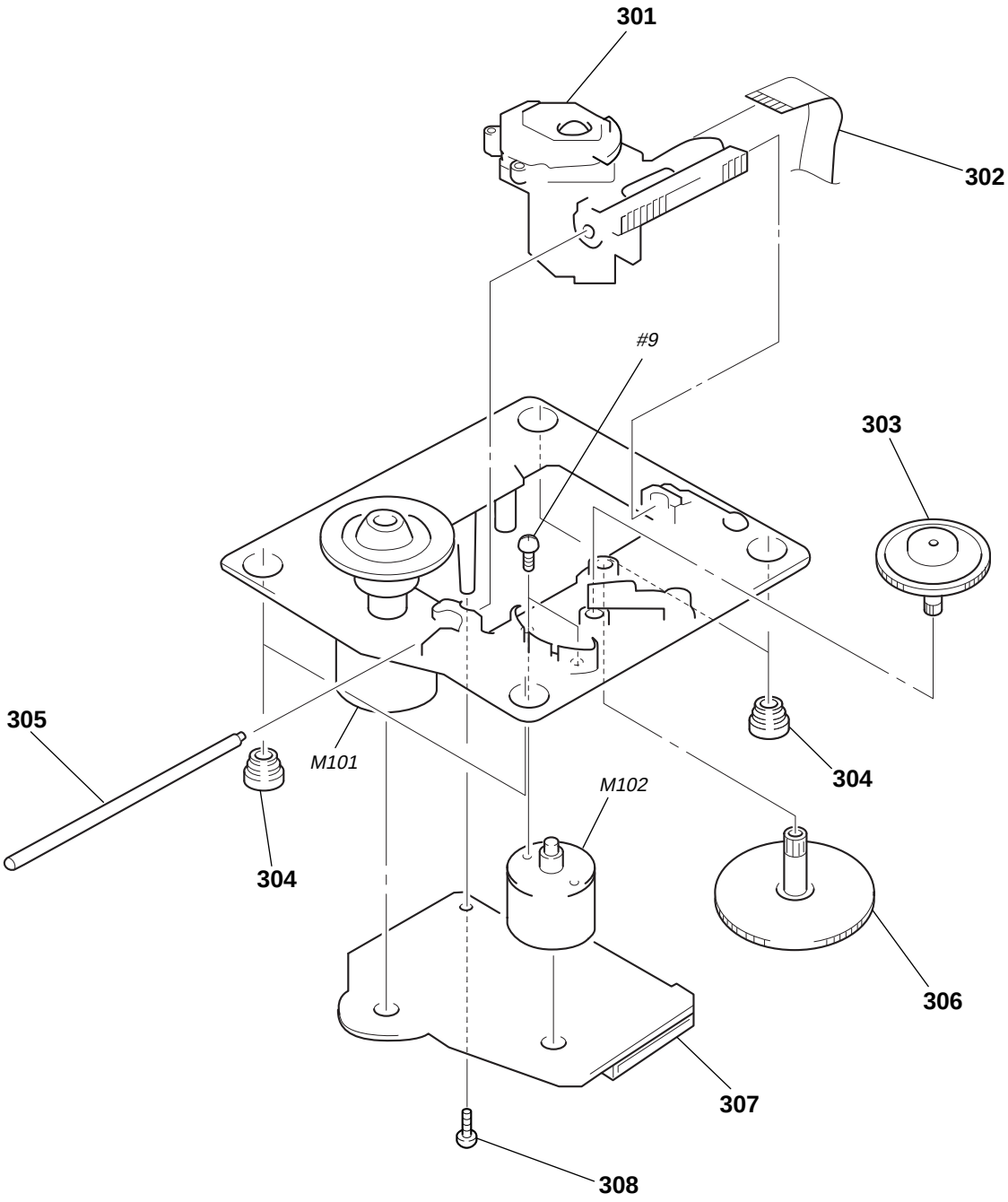
## (5) CD MECHANISM DECK SECTION-2 (CDM38LH-5BD29AL)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | 4-981-789-11 | BRACKET (2), YOKE | |
| 252 | 4-977-954-01 | PULLEY (SL) | |
| 253 | 4-977-953-01 | GEAR (SL-A) | |
| 254 | 4-977-955-01 | GEAR (SL-B) | |
| 255 | 4-977-942-01 | BELT (SL) (1.4) | |
| 256 | X-4946-667-1 | CAM ASSY, BU | |
| 257 | 1-452-925-21 | MAGNET ASSY | |
| 258 | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE) | |
| * 259 | 1-658-575-11 | CONNECTOR BOARD | |
| * 260 | X-4946-668-1 | CHASSIS (CDM) ASSY | |
| 261 | 4-985-672-01 | SCREW (+PTPWH M2.6), FLOATING | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 262 | 1-658-578-11 | MOTOR (SLIDE) BOARD | |
| 263 | 4-982-447-01 | SPRING (BU), COMPRESSION | |
| 264 | 4-951-620-41 | SCREW (2.6), +BVTP | |
| 265 | X-4949-570-1 | HOLDER (BU) ASSY | |
| 266 | 4-989-494-01 | SCREW (SLIDER), STEP | |
| 267 | 4-989-492-11 | SLIDER (38) | |
| 268 | 4-989-819-11 | SPRING, TENSION | |
| 269 | 4-989-491-11 | COVER, LENS | |
| 270 | 4-933-142-21 | PULLEY (L), PRESS | |
| M801 | A-4672-004-A | MOTOR ASSY (SLIDE) | |
| S811 | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET) | |

## (6) BASE UNIT SECTION (BU-5BD29AL)

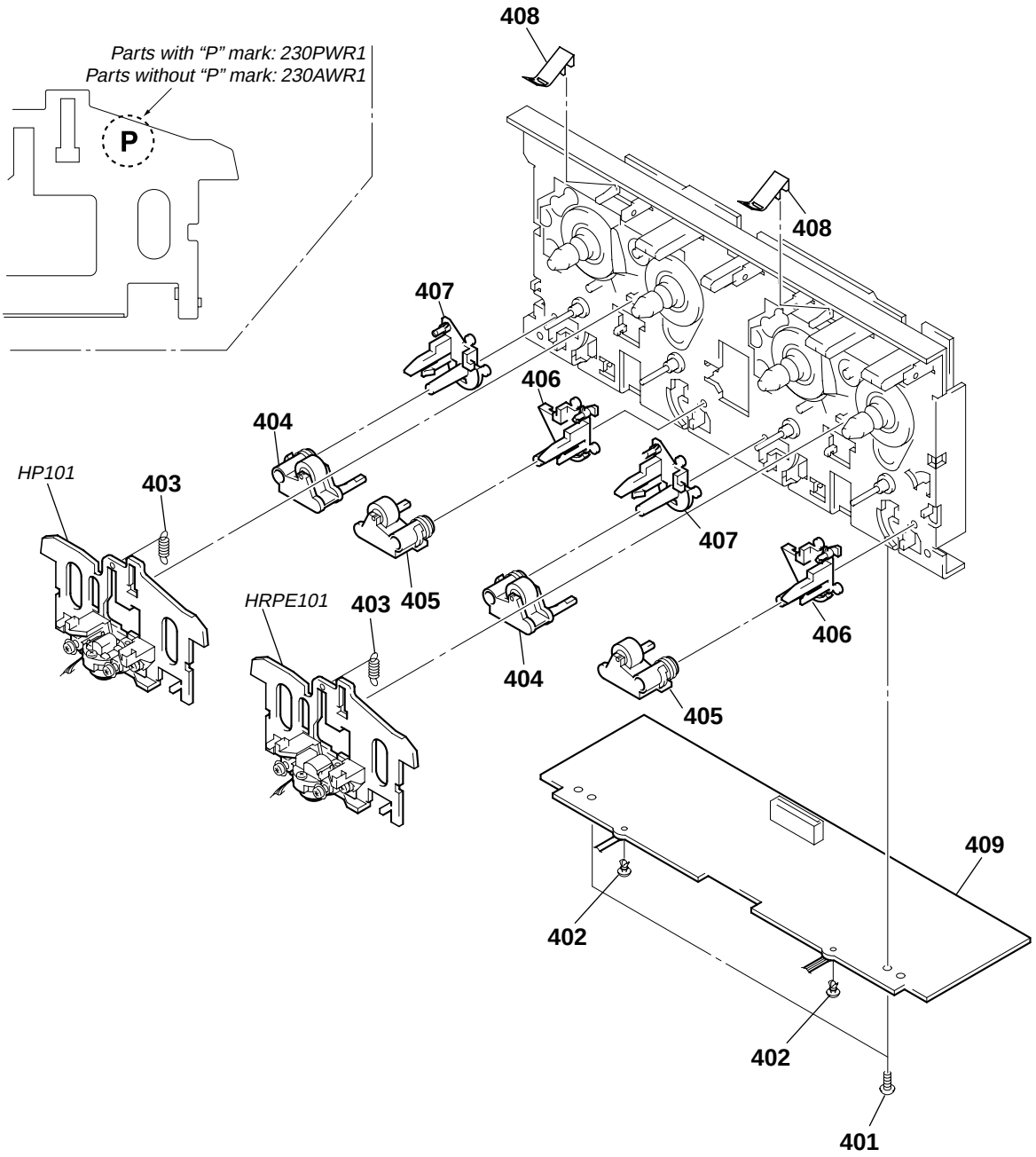



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| ⚠301 | 8-820-020-02 | OPTICAL PICK-UP KSS-213D/Q-NP | |
| 302 | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE) | |
| 303 | 4-917-567-01 | GEAR (M) | |
| 304 | 4-951-940-01 | INSULATOR (BU) | |
| 305 | 4-917-565-01 | SHAFT, SLED | |
| 306 | 4-917-564-01 | GEAR (P), FLATNESS | |
| * 307 | A-4699-522-A | BD BOARD, COMPLETE | |
| 308 | 4-951-620-01 | SCREW (2.6X8), +BVTP | |
| M101 | X-4917-523-4 | MOTOR ASSY (SPINDLE) | |
| M102 | X-4917-504-1 | MOTOR ASSY (SLED) | |

## (7) TAPE MECHANISM DECK SECTION-1
## ( TCM-230AWR1 / TCM-230PWR1 )

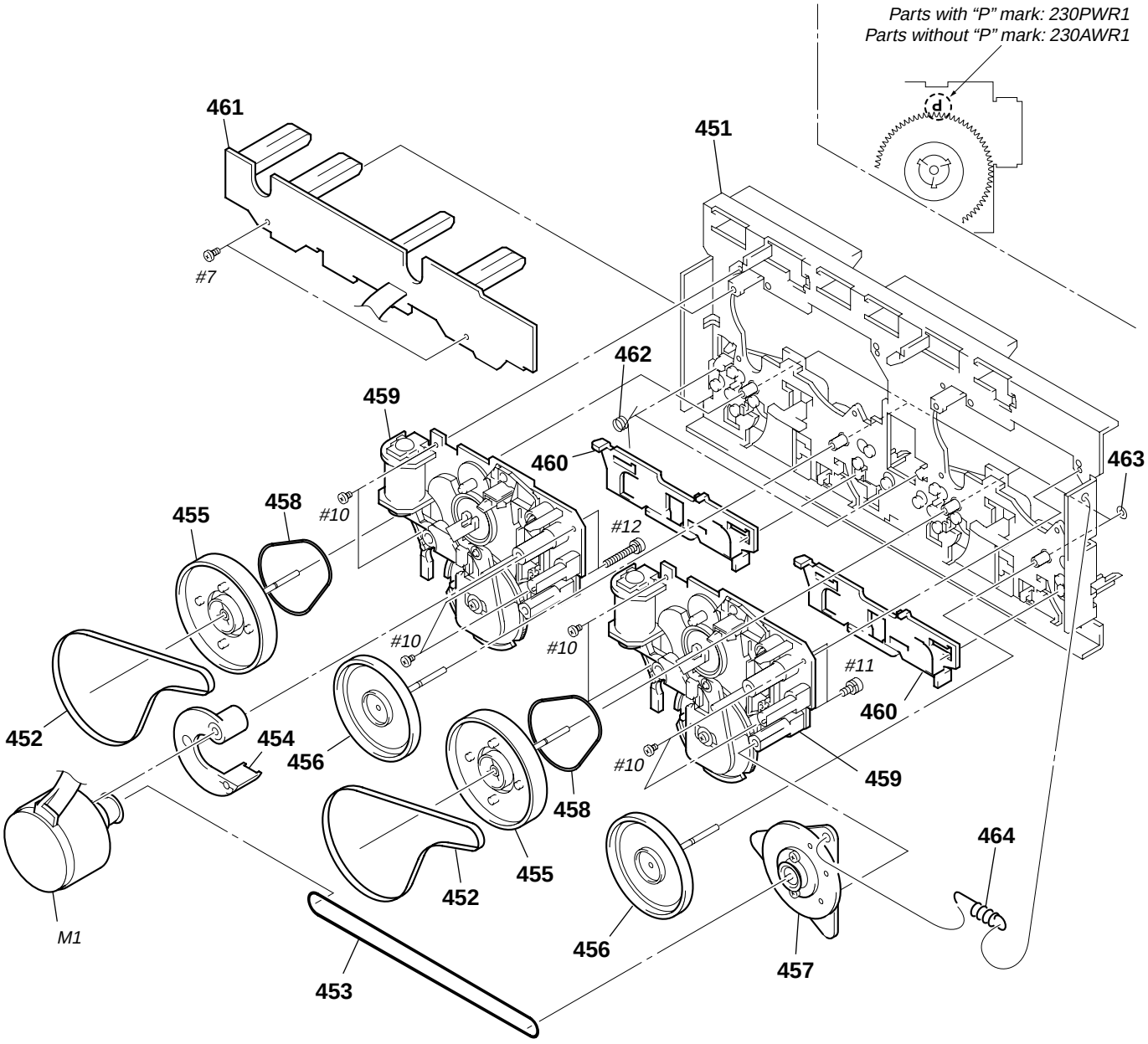
*__NOTE:__ *Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part*




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 401 | 3-376-464-11 | SCREW (+PTT 2.6X6), GROUND POINT | |
| 402 | 3-911-116-21 | RIVET, PUSH | |
| 403 | 3-016-574-01 | SPRING (HEAD),TENSION | |
| 404 | X-3374-156-1 | PINCH LEVER (REV) ASSY | |
| 405 | X-3374-155-1 | PINCH LEVER (FWD) ASSY | |
| 406 | 3-016-564-01 | BASE (PINCH LEVER FWD) | |
| 407 | 3-016-565-01 | BASE (PINCH LEVER REV) | |
| 408 | 3-016-567-01 | SPRING (CASSETTE), LEAF | |
| * 409 | A-2007-731-A | AUDIO BOARD, COMPLETE | |
| HP101 | A-2056-681-A | DECK (A) ASSY, HEAD (230AWR1) (*NOTE) | |
| HP101 | A-2056-683-A | DECK (A) ASSY, HEAD (230PWR1) (*NOTE) | |
| HRPE101 | A-2056-682-A | DECK (B) ASSY, HEAD (230AWR1) (*NOTE) | |
| HRPE101 | A-2056-684-A | DECK (B) ASSY, HEAD (230PWR1) (*NOTE) | |

## (8) TAPE MECHANISM DECK SECTION-2
**(TCM-230AWR1 / TCM-230PWR1)**

* ***NOTE:*** *Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.*




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 451 | X-3374-214-1 | CHASSIS ASSY, MAIN | |
| 452 | 3-016-570-01 | BELT (CAPSTAN) | |
| 453 | 3-016-569-01 | BELT (TENSION) | |
| 454 | 3-017-360-01 | BRACKET (MOTOR) | |
| 455 | X-3374-234-7 | FLYWHEEL (FWD) ASSY | |
| 456 | X-3374-235-1 | FLYWHEEL (REV) ASSY | |
| 457 | X-3374-238-1 | PULLEY ASSY, TENSION | |
| 458 | 3-024-405-01 | BELT (FR2) | |
| 459 | A-2004-629-A | MECHANICAL BLOCK ASSY (230AWR1) | (*NOTE) |
| 459 | A-2004-630-A | MECHANICAL BLOCK ASSY (230PWR1) | (*NOTE) |
| 460 | 3-016-566-01 | SLIDER, REVERSE | |
| * 461 | A-2007-732-A | LEAF SW BOARD, COMPLETE | |
| 462 | 3-016-575-01 | SPRING, TORSION | |
| 463 | 3-019-208-01 | WASHER, STOPPER | |
| 464 | 3-027-453-01 | SPRING (GROUND), TENSION | |
| M1 | A-2004-628-A | MOTOR ASSY, CAPSTAN | |

# SECTION 9
# ELECTRICAL PARTS LIST

**AMP (L)**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  EA : Saudi Arabia
  EE : East European
  MY : Malaysia
  SP : Singapore
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. .  uPA. . : µPA. .
  uPB. . : µPB. .  uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-4407-181-A | AMP (L) BOARD, COMPLETE (EE, CIS) | | | |
| * | A-4407-182-A | AMP (L) BOARD, COMPLETE (E, EA, MY,SP) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C801 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C802 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C803 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C804 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C806 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C807 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C809 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C810 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C811 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C812 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C813 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C841 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C842 | 1-126-307-11 | ELECT | 6800uF | 20% | 50V |
| C843 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C851 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C852 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C853 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C854 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C856 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C857 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C858 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C861 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C862 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C891 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C892 | 1-126-307-11 | ELECT | 6800uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| CN801 | 1-778-981-11 | CONNECTOR, BOARD TO BOARD 13P | | | |
| CN803 | 1-691-767-11 | PLUG (MICRO CONNECTOR) 5P | | | |
| CN804 | 1-691-765-11 | PLUG (MICRO CONNECTOR) 3P | | | |
| CN805 | 1-691-765-21 | PLUG (MICRO CONNECTOR) 3P | | | |
| | | < DIODE > | | | |
| D800 | 8-719-060-53 | DIODE RBV-2506 | | | |
| D801 | 8-719-911-19 | DIODE 1SS119 | | | |
| D811 | 8-719-911-19 | DIODE 1SS119 | | | |
| D841 | 8-719-911-19 | DIODE 1SS119 | | | |
| D842 | 8-719-911-19 | DIODE 1SS119 | | | |
| D851 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < IC > | | | |
| IC801 | 8-749-921-04 | IC STK-4211MK-2 | | | |
| | | < TRANSISTOR > | | | |
| Q801 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| Q851 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| | | < RESISTOR > | | | |
| R801 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R802 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R803 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R804 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R805 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R806 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R807 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R808 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |
| R809 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R811 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R812 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R813 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R814 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| R816 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| ⚠R820 | 1-202-972-61 | FUSIBLE | 1 | 5% | 1/4W F |
| R841 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W (EE, CIS) |
| R841 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W (EXCEPT EE, CIS) |
| R842 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W (EE, CIS) |
| R842 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W (EXCEPT EE, CIS) |
| R843 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W (EE, CIS) |
| R843 | 1-247-897-11 | CARBON | 560K | 5% | 1/4W (EXCEPT EE, CIS) |

# AMP (L) | AMP (R)

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R844 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W (EE, CIS) |
| R844 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W (EXCEPT EE, CIS) |
| R851 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R852 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R853 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R854 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R855 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R856 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R857 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R858 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |
| R859 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R860 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R861 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R862 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R863 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| ********** | | | | | |
| * | A-4407-185-A | AMP (R) BOARD, COMPLETE (EE, CIS) | | | |
| * | A-4407-186-A | AMP (R) BOARD, COMPLETE (E, EA, MY,SP) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C821 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C822 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C823 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C824 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C826 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C827 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C829 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C830 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C831 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C832 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C833 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C871 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C872 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C873 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C874 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C876 | 1-126-967-11 | ELECT | 47uF | 20% | 50V |
| C877 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C878 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C881 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C882 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C893 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| | | < DIODE > | | | |
| D821 | 8-719-911-19 | DIODE 1SS119 | | | |
| D831 | 8-719-911-19 | DIODE 1SS119 | | | |
| D871 | 8-719-911-19 | DIODE 1SS119 | | | |
| D891 | 8-719-911-19 | DIODE 1SS119 | | | |
| D892 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < IC > | | | |
| IC821 | 8-749-921-04 | IC STK-4211MK-2 | | | |
| | | < TRANSISTOR > | | | |
| Q821 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| Q871 | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA | | | |
| Q891 | 8-729-029-86 | TRANSISTOR DTC124ESA | | | |
| Q892 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | | | |
| | | < RESISTOR > | | | |
| R821 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R822 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R823 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R824 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R825 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R826 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R827 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R828 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |
| R829 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R831 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R832 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R833 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R834 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| R836 | 1-260-105-11 | CARBON | 3.3K | 5% | 1/2W |
| ⚠R840 | 1-202-972-61 | FUSIBLE | 1 | 5% | 1/4W F |
| R871 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R872 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R873 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R874 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R875 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R876 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| ⚠R877 | 1-212-881-11 | FUSIBLE | 100 | 5% | 1/4W F |
| ⚠R878 | 1-220-893-11 | METAL | 0.22 | 10% | 5W F |
| R879 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W |
| R881 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R882 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R883 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R884 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R891 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W (EE, CIS) |
| R891 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W (EXCEPT EE, CIS) |
| R892 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W (EE, CIS) |
| R892 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W (EXCEPT EE, CIS) |
| R893 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W (EE, CIS) |
| R893 | 1-247-897-11 | CARBON | 560K | 5% | 1/4W (EXCEPT EE, CIS) |
| R894 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W (EE, CIS) |
| R894 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W (EXCEPT EE, CIS) |
| R895 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R896 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R897 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| | | < THERMISTOR > | | | |
| THP891 | 1-807-796-11 | THERMISTOR | | | |
| ********** | | | | | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-2007-731-A | AUDIO BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C301 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C302 | 1-126-968-11 | ELECT | 100uF | 20% | 6.3V |
| C303 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C304 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C305 | 1-107-715-11 | ELECT | 22uF | 20% | 16V |
| C311 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C313 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C314 | 1-130-487-00 | MYLAR | 0.022uF | 5% | 50V |
| C315 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C331 | 1-137-427-11 | FILM | 120PF | 5% | 50V |
| C332 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C333 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C401 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C402 | 1-126-968-11 | ELECT | 100uF | 20% | 6.3V |
| C403 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C404 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C405 | 1-107-715-11 | ELECT | 22uF | 20% | 16V |
| C411 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C413 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C414 | 1-130-487-00 | MYLAR | 0.022uF | 5% | 50V |
| C415 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C431 | 1-137-427-11 | FILM | 120PF | 5% | 50V |
| C432 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C433 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C601 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C602 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C611 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C612 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C621 | 1-137-150-11 | FILM | 0.01uF | 5% | 100V |
| C622 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C623 | 1-136-155-00 | FILM | 0.015uF | 5% | 50V |
| C624 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C625 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C627 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C628 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C642 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| | | < CONNECTOR > | | | |
| CN601 | 1-695-338-11 | PIN, CONNECTOR (PC BOARD) 15P | | | |
| | | < IC > | | | |
| IC601 | 8-759-111-44 | IC uPC4570C-1 | | | |
| IC602 | 8-759-143-54 | IC uPC1330HA | | | |
| IC611 | 8-759-111-44 | IC uPC4570C-1 | | | |
| | | < COIL > | | | |
| L331 | 1-410-780-11 | INDUCTOR | 27mH | | |
| L431 | 1-410-780-11 | INDUCTOR | 27mH | | |
| L601 | 1-414-193-41 | INDUCTOR | 220uH | | |
| L602 | 1-414-193-41 | INDUCTOR | 220uH | | |
| | | < TRANSISTOR > | | | |
| Q621 | 8-729-142-46 | TRANSISTOR 2SC2001-LK | | | |
| Q622 | 8-729-142-46 | TRANSISTOR 2SC2001-LK | | | |
| Q623 | 8-729-801-93 | TRANSISTOR 2SD1387 | | | |
| | | < RESISTOR > | | | |
| R301 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R302 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R303 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R304 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W |
| R305 | 1-247-858-11 | CARBON | 13K | 5% | 1/4W |
| R311 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R312 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R314 | 1-247-882-11 | CARBON | 130K | 5% | 1/4W |
| R315 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |
| R331 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R401 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R402 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R403 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R404 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W |
| R405 | 1-247-858-11 | CARBON | 13K | 5% | 1/4W |
| R411 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R412 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R414 | 1-247-882-11 | CARBON | 130K | 5% | 1/4W |
| R415 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |
| R431 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R601 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R602 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R608 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R609 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R611 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R612 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| ⚠R621 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W F |
| ⚠R622 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W F |
| R623 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R624 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R625 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV311 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV341 | 1-241-768-11 | RES, ADJ, CARBON 220K | | | |
| RV401 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV411 | 1-238-598-11 | RES, ADJ, CARBON 2.2K | | | |
| RV441 | 1-241-768-11 | RES, ADJ, CARBON 220K | | | |
| | | < TRANSFORMER > | | | |
| T621 | 1-423-980-11 | TRANSFORMER, BIAS OSCILLATION | | | |
| ********** | | | | | |
| * | A-4699-522-A | BD BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-126-607-11 | ELECT CHIP | 47uF | 20% | 4V |
| C102 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C103 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C105 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C106 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## BD

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C107 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C108 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C109 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C111 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C112 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C113 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C114 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C115 | 1-126-607-11 | ELECT CHIP | 47uF | 20% | 4V |
| C116 | 1-163-016-00 | CERAMIC CHIP | 0.0039uF | 10% | 50V |
| C117 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C118 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C119 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C120 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C121 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C122 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C123 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C124 | 1-126-607-11 | ELECT CHIP | 47uF | 20% | 4V |
| C125 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C126 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C127 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C128 | 1-163-135-00 | CERAMIC CHIP | 560PF | 5% | 50V |
| C129 | 1-163-038-91 | CERAMIC CHIP | 0.1uF | | 25V |
| C130 | 1-164-336-11 | CERAMIC CHIP | 0.33uF | | 25V |
| C131 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C140 | 1-110-501-11 | CERAMIC CHIP | 0.33uF | 10% | 16V |
| C154 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C161 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C162 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C163 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C164 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5% | 50V |
| C165 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C166 | 1-163-137-00 | CERAMIC CHIP | 680PF | 5% | 50V |
| C167 | 1-163-121-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C168 | 1-163-137-00 | CERAMIC CHIP | 680PF | 5% | 50V |
| C169 | 1-163-121-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C170 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C171 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C175 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C176 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C177 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C178 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C179 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C181 | 1-126-205-11 | ELECT CHIP | 47uF | 20% | 6.3V |
| C182 | 1-126-393-11 | ELECT CHIP | 33uF | 20% | 10V |
| C183 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C185 | 1-163-021-00 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C188 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C189 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| | | < CONNECTOR > | | | |
| CNU101 | 1-770-014-11 | CONNECTOR, FFC/FPC 16P | | | |
| CNU102 | 1-778-874-11 | CONNECTOR, FFC (LIF (NON-ZIF)) 19P | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < FERRITE BEAD > | | | |
| FB101 | 1-414-234-11 | INDUCTOR CHIP 0UH | | | |
| FB103 | 1-414-234-11 | INDUCTOR CHIP 0UH | | | |
| | | < IC > | | | |
| IC101 | 8-752-080-62 | IC CXA1992AR | | | |
| IC102 | 8-759-429-32 | IC BA5941FP-E2 | | | |
| IC103 | 8-752-380-64 | IC CXD2519Q | | | |
| | | < SHORT > | | | |
| JW101 | 1-216-295-00 | SHORT | 0 | | |
| JW104 | 1-216-295-00 | SHORT | 0 | | |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-010-08 | TRANSISTOR MSB710-R | | | |
| | | < RESISTOR > | | | |
| R102 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R104 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R105 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W |
| R106 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W |
| R107 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W |
| R108 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W |
| R109 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R114 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R115 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R116 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R117 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R118 | 1-216-063-00 | RES, CHIP | 3.9K | 5% | 1/10W |
| R119 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R120 | 1-216-089-00 | RES, CHIP | 47K | 5% | 1/10W |
| R121 | 1-216-114-00 | RES, CHIP | 510K | 5% | 1/10W |
| R122 | 1-216-097-00 | RES, CHIP | 100K | 5% | 1/10W |
| R123 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R124 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R125 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R126 | 1-216-063-00 | RES, CHIP | 3.9K | 5% | 1/10W |
| R127 | 1-216-089-00 | RES, CHIP | 47K | 5% | 1/10W |
| R128 | 1-216-098-00 | METAL CHIP | 110K | 5% | 1/10W |
| R129 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R130 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R131 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R132 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R133 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R134 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R135 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R136 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R137 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R138 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R156 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R157 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R158 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R159 | 1-216-121-00 | RES, CHIP | 1M | 5% | 1/10W |
| R161 | 1-216-097-00 | RES, CHIP | 100K | 5% | 1/10W |
| R162 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R163 | 1-216-121-00 | RES, CHIP | 1M | 5% | 1/10W |
| R164 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R165 | 1-216-049-11 | RES, CHIP | 1K | 5% | 1/10W |
| R166 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R167 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R168 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R169 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R170 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R171 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R172 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R173 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R174 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R175 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R176 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R177 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R178 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R179 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R180 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R181 | 1-216-025-00 | RES, CHIP | 100 | 5% | 1/10W |
| R188 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R190 | 1-216-097-00 | RES, CHIP | 100K | 5% | 1/10W |
| R191 | 1-216-105-00 | RES, CHIP | 220K | 5% | 1/10W |
| | | < SWITCH > | | | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | | | |
| | | < VIBRATOR > | | | |
| X101 | 1-767-408-21 | VIBRATOR, CRYSTAL (16.9344MHz) | | | |
| ********** | | | | | |
| * | 1-668-206-11 | CD-SW BOARD | | | |
| | | ********** | | | |
| | | < DIODE > | | | |
| D631 | 8-719-056-13 | LED SML79423C-TP15 (DISC 1) | | | |
| D632 | 8-719-056-13 | LED SML79423C-TP15 (DISC 2) | | | |
| D633 | 8-719-056-13 | LED SML79423C-TP15 (DISC 3) | | | |
| | | < TRANSISTOR > | | | |
| Q613 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q614 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q615 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| | | < RESISTOR > | | | |
| R656 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R657 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R658 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R659 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R660 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R691 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R692 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R693 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R694 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R695 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R696 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| | | < SWITCH > | | | |
| S637 | 1-762-875-21 | SWITCH, KEYBOARD (I/⏻(POWER)) | | | |
| S638 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 1) | | | |
| S639 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 2) | | | |
| S640 | 1-762-875-21 | SWITCH, KEYBOARD (DISC 3) | | | |
| S641 | 1-762-875-21 | SWITCH, KEYBOARD (DISC SKIP/EX-CHANGE) | | | |
| S642 | 1-762-875-21 | SWITCH, KEYBOARD (⏏) | | | |
| ********** | | | | | |
| * | 1-658-575-11 | CONNECTOR BOARD | | | |
| | | ********** | | | |
| | | < CONNECTOR > | | | |
| * CN701 | 1-568-946-11 | PIN, CONNECTOR 8P | | | |
| CN702 | 1-750-413-11 | CONNECTOR, FFC/FPC 8P | | | |
| | | < RESISTOR > | | | |
| R703 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R704 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R705 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| ********** | | | | | |
| * | 1-668-209-11 | HP BOARD | | | |
| | | ********* | | | |
| | | < CAPACITOR > | | | |
| C421 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C471 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C472 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| | | < CONNECTOR > | | | |
| * CN109 | 1-564-521-11 | PLUG, CONNECTOR 6P | | | |
| | | < LEAD > | | | |
| EL1 | 1-690-880-41 | LEAD (WITH CONNECTOR) | | | |
| | | < JACK > | | | |
| J421 | 1-784-224-11 | JACK (LARGE TYPE) (PHONES) | | | |
| ********** | | | | | |
| * | A-2007-732-A | LEAF SW BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1001 | 1-107-716-11 | ELECT | 33uF | 20% | 10V |
| | | < CONNECTOR > | | | |
| CN1001 | 1-568-860-11 | SOCKET, CONNECTOR 17P | | | |
| CN1001 | 1-784-459-11 | CONNECTOR, FFC/FPC 17P | | | |
| | | < DIODE > | | | |
| D1001 | 8-719-911-19 | DIODE 1SS119 | | | |
| D1002 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < CABLE HOLDER > | | | |
| * DM1001 | 1-784-581-11 | HOLDER, CABLE (2.5MM PITCH) 4P | | | |
| | | < PHOTO INTERRUPTER > | | | |
| IC1001 | 8-749-014-38 | PHOTO INTERRUPTER SG-264 | | | |
| IC1002 | 8-749-014-38 | PHOTO INTERRUPTER SG-264 | | | |

# LEAF SW MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | |
| Q1001 | 8-729-029-56 | TRANSISTOR DTA144ESA | | | |
| Q1001 | 8-729-900-65 | TRANSISTOR DTA144ES | | | |
| | | < RESISTOR > | | | |
| R907 | 1-247-879-11 | CARBON | 100K | 5% | 1/4W |
| R1001 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R1002 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R1003 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R1004 | 1-247-834-11 | CARBON | 1.3K | 5% | 1/4W |
| R1005 | 1-247-818-11 | CARBON | 300 | 5% | 1/4W |
| R1006 | 1-247-864-11 | CARBON | 24K | 5% | 1/4W |
| R1007 | 1-247-856-00 | CARBON | 11K | 5% | 1/4W |
| R1008 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV1001 | 1-241-785-11 | RES, ADJ, CARBON 10K | | | |
| RV1002 | 1-241-785-11 | RES, ADJ, CARBON 10K | | | |
| | | < SWITCH > | | | |
| S1001 | 1-570-953-11 | SWITCH, PUSH (1 KEY) (A PLAY) | | | |
| S1002 | 1-570-953-11 | SWITCH, PUSH (1 KEY) (B PLAY) | | | |
| S1003 | 1-771-333-11 | SWITCH, LEAF (A HALF) | | | |
| S1004 | 1-771-205-11 | SWITCH, LEAF (A 120/70) | | | |
| S1005 | 1-771-205-11 | SWITCH, LEAF (REC A) | | | |
| S1006 | 1-771-333-11 | SWITCH, LEAF (B HALF) | | | |
| S1008 | 1-771-205-11 | SWITCH, LEAF (B 120/70) | | | |
| S1009 | 1-771-205-11 | SWITCH, LEAF (REC B) | | | |
| ********** | | | | | |
| * | A-4407-152-A | MAIN BOARD, COMPLETE (EE, CIS) | | | |
| * | A-4407-153-A | MAIN BOARD, COMPLETE (EA, MY, SP) | | | |
| * | A-4407-154-A | MAIN BOARD, COMPLETE (E) | | | |
| | | ********** | | | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C102 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C103 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C111 | 1-137-195-11 | FILM | 0.56uF | 5% | 50V |
| C112 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C113 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C114 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V |
| C115 | 1-136-159-00 | FILM | 0.033uF | 5% | 50V |
| C116 | 1-130-473-00 | MYLAR | 0.0015uF | 5% | 50V |
| C117 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C118 | 1-130-467-00 | MYLAR | 470PF | 5% | 50V |
| C119 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C120 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C121 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C122 | 1-162-291-31 | CERAMIC | 560PF | 10% | 50V |
| C123 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C124 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C125 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C131 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C132 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C133 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C134 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C135 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C136 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C141 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C151 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C152 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C161 | 1-137-195-11 | FILM | 0.56uF | 5% | 50V |
| C162 | 1-136-158-00 | FILM | 0.027uF | 5% | 50V |
| C163 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C164 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V |
| C165 | 1-136-159-00 | FILM | 0.033uF | 5% | 50V |
| C166 | 1-130-473-00 | MYLAR | 0.0015uF | 5% | 50V |
| C167 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C168 | 1-130-467-00 | MYLAR | 470PF | 5% | 50V |
| C169 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C170 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C171 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C172 | 1-162-291-31 | CERAMIC | 560PF | 10% | 50V |
| C173 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C174 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C175 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C176 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V |
| C177 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C191 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C192 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C193 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C194 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C195 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C196 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C301 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C302 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C303 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C304 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C305 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C306 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C307 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C308 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C309 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C310 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C311 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C312 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C313 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C314 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C315 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C316 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C317 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C320 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C331 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C332 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C333 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C334 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C351 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C352 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C353 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C354 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C355 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C356 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C357 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C358 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C359 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C381 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C382 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C391 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C392 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C393 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C394 | 1-126-925-11 | ELECT | 470uF | 20% | 10V |
| C395 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C396 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C397 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C405 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C406 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C407 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C408 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C409 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C410 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C411 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C431 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C432 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C433 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C434 | 1-126-966-11 | ELECT | 33uF | 20% | 50V |
| C455 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C456 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C457 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C458 | 1-136-495-11 | FILM | 0.068uF | 5% | 50V (EE, CIS) |
| C501 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C502 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C503 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C504 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C505 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C506 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C507 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C508 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C509 | 1-102-958-00 | CERAMIC | 20PF | 5% | 50V |
| C510 | 1-102-514-11 | CERAMIC | 22PF | 5% | 50V |
| C512 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C571 | 1-109-889-11 | ELECT | 1uF | 20% | 50V |
| C901 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C902 | 1-128-548-11 | ELECT | 4700uF | 20% | 25V |
| C903 | 1-104-666-11 | ELECT | 220uF | 20% | 25V |
| C904 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C905 | 1-104-661-00 | ELECT | 330uF | 20% | 16V |
| C909 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C910 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C911 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C912 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C913 | 1-126-943-11 | ELECT | 2200uF | 20% | 25V |
| C914 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C915 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C916 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C917 | 1-126-933-11 | ELECT | 100uF | 20% | 16V |
| C918 | 1-126-968-11 | ELECT | 100uF | 20% | 50V |
| C919 | 1-126-968-11 | ELECT | 100uF | 20% | 50V |
| C920 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C921 | 1-126-947-11 | ELECT | 47uF | 20% | 35V |
| C951 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C952 | 1-126-943-11 | ELECT | 2200uF | 20% | 25V |
| C953 | 1-104-666-11 | ELECT | 220uF | 20% | 25V |
| C955 | 1-104-661-00 | ELECT | 330uF | 20% | 16V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN101 | 1-778-982-11 | CONNECTOR, BOARD TO BOARD 13P |
| * CN102 | 1-568-832-11 | SOCKET, CONNECTOR 13P (E) |
| CN102 | 1-568-834-11 | SOCKET, CONNECTOR 15P (EXCEPT E) |
| * CN103 | 1-568-946-11 | PIN, CONNECTOR 8P |
| * CN104 | 1-568-947-11 | PIN, CONNECTOR 9P |
| * CN105 | 1-568-862-11 | SOCKET, CONNECTOR 19P |
| CN106 | 1-568-834-11 | SOCKET, CONNECTOR 15P |
| * CN107 | 1-568-836-11 | SOCKET, CONNECTOR 17P |
| CN110 | 1-564-506-11 | PLUG, CONNECTOR 3P |
| * CN201 | 1-568-832-11 | SOCKET, CONNECTOR 13P |
| * CN301 | 1-568-449-11 | HOUSING, CONNECTOR(PC BOARD)3P |

< DIODE >

| Ref. No. | Part No. | Description |
|---|---|---|
| D141 | 8-719-911-19 | DIODE 1SS119 |
| D333 | 8-719-911-19 | DIODE 1SS119 |
| D334 | 8-719-911-19 | DIODE 1SS119 |
| D401 | 8-719-911-19 | DIODE 1SS119 |
| D402 | 8-719-911-19 | DIODE 1SS119 |
| D403 | 8-719-911-19 | DIODE 1SS119 |
| D404 | 8-719-911-19 | DIODE 1SS119 |
| D405 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D406 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D407 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D408 | 8-719-911-19 | DIODE 1SS119 |
| D409 | 8-719-911-19 | DIODE 1SS119 |
| D501 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D502 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D503 | 8-719-911-19 | DIODE 1SS119 |
| D504 | 8-719-911-19 | DIODE 1SS119 |
| D505 | 8-719-911-19 | DIODE 1SS119 |
| D506 | 8-719-911-19 | DIODE 1SS119 |
| D507 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D508 | 8-719-911-19 | DIODE 1SS119 |
| D901 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D902 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D903 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D904 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D905 | 8-719-933-36 | DIODE HZS6B1L |
| D906 | 8-719-911-19 | DIODE 1SS119 |
| D907 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D908 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D909 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D910 | 8-719-024-99 | DIODE 11ES2-NTA2B |
| D911 | 8-719-934-25 | DIODE HZS33-1L |
| D912 | 8-719-921-48 | DIODE MTZJ-T-72-5.6C |

# MAIN

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| D913 | 8-719-911-19 | DIODE 1SS119 | |
| D914 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D915 | 8-719-935-69 | DIODE HZS11B1LTA | |
| | | < GROUND PLATE > | |
| * EPT1 | 4-870-539-11 | PLATE, GROUND | |
| | | < IC > | |
| IC101 | 8-759-495-24 | IC M62442FP-TP | |
| IC102 | 8-759-634-51 | IC M5218AP | |
| IC191 | 8-759-634-50 | IC M5218AL | |
| IC301 | 8-759-495-26 | IC HA12215 | |
| IC381 | 8-749-923-04 | IC TOTX178 (CD DIGITAL OUT, OPTICAL) | |
| IC501 | 8-759-537-36 | IC uPD780018AYGF-012-3BA | |
| IC502 | 8-759-635-63 | IC M51943BSL | |
| IC901 | 8-759-604-86 | IC M5F7807L | |
| IC902 | 8-759-231-53 | IC TA7805S | |
| IC903 | 8-759-231-58 | IC TA7812S | |
| | | < JACK > | |
| J101 | 1-695-188-31 | JACK, PIN 4P (MD/VIDEO (AUDIO), IN/OUT) | |
| J191 | 1-774-785-11 | JACK, PIN 1P (SUPER WOOFER) | |
| | | < COIL > | |
| L381 | 1-410-521-11 | INDUCTOR 100uH | |
| L392 | 1-410-521-11 | INDUCTOR 100uH | |
| L401 | 1-420-872-00 | COIL, AIR-CORE (EE, CIS) | |
| L402 | 1-420-872-00 | COIL, AIR-CORE (EE, CIS) | |
| L451 | 1-420-872-00 | COIL, AIR-CORE (EE, CIS) | |
| L452 | 1-420-872-00 | COIL, AIR-CORE (EE, CIS) | |
| L501 | 1-410-509-11 | INDUCTOR 10uH | |
| | | < TRANSISTOR > | |
| Q111 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q112 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q113 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q161 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q162 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q163 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q191 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q331 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q332 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q333 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q334 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q335 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q336 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q337 | 8-729-045-21 | TRANSISTOR 2SD1513TP-LK | |
| Q338 | 8-729-029-21 | TRANSISTOR DTA114ESA-TP | |
| Q339 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q340 | 8-729-116-59 | TRANSISTOR 2SB1068TP | |
| Q341 | 8-729-045-21 | TRANSISTOR 2SD1513TP-LK | |
| Q342 | 8-729-029-21 | TRANSISTOR DTA114ESA-TP | |
| Q343 | 8-729-029-66 | TRANSISTOR DTC114ESA | |
| Q401 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q402 | 8-729-111-29 | TRANSISTOR 2SD1616A-K | |
| Q431 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q432 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q433 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q434 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q435 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q436 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q437 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q501 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q571 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q572 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q575 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q901 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q902 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q903 | 8-729-029-68 | TRANSISTOR DTC114TSA | |
| Q905 | 8-729-040-20 | TRANSISTOR RT1P137L-TP | |
| Q906 | 8-729-029-40 | TRANSISTOR DTA124ESA | |
| Q907 | 8-729-040-20 | TRANSISTOR RT1P137L-TP | |
| Q908 | 8-729-029-86 | TRANSISTOR DTC124ESA | |
| Q909 | 8-729-026-68 | TRANSISTOR 2SD2525(TP) | |
| Q910 | 8-729-030-19 | TRANSISTOR 2SB1640 | |
| Q913 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q914 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q951 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q952 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| | | < RESISTOR > | |
| R101 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R102 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R111 | 1-247-826-00 | CARBON 620 5% 1/4W | |
| R112 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R113 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R114 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R115 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R116 | 1-247-887-00 | CARBON 220K 5% 1/4W | |
| R117 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R118 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R119 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R120 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R121 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R123 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R124 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R125 | 1-247-843-11 | CARBON 3.3K 5% 1/4W | |
| R126 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R127 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R128 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R131 | 1-247-807-31 | CARBON 100 5% 1/4W | |
| R132 | 1-247-807-31 | CARBON 100 5% 1/4W | |
| R133 | 1-247-807-31 | CARBON 100 5% 1/4W | |
| R141 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R142 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R143 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R144 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R145 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R151 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R152 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R161 | 1-247-826-00 | CARBON 620 5% 1/4W | |
| R162 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R163 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R164 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R165 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R166 | 1-247-887-00 | CARBON 220K 5% 1/4W | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R167 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R168 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R169 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R170 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R171 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R173 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R178 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R191 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R192 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R193 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R194 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R195 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R196 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R197 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R198 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R199 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R301 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R302 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R303 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R304 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R305 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R306 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R307 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R308 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R309 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R311 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R312 | 1-247-884-11 | CARBON | 160K | 5% | 1/4W |
| R313 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R315 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R316 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R317 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R318 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R319 | 1-247-893-11 | CARBON | 390K | 5% | 1/4W |
| R321 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R322 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R324 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W |
| R325 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R326 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R327 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R328 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W |
| R329 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R330 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R331 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R332 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R333 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R334 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R335 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R336 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R337 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R338 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R339 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R340 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R341 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R342 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R343 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R351 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R352 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R353 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R354 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R355 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R356 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R357 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R358 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R359 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R391 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R392 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R393 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R394 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R401 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R403 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R404 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R405 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R406 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R407 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R408 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R409 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R410 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| ⚠R411 | 1-216-456-00 | METAL OXIDE | 820 | 5% | 2W F |
| ⚠R412 | 1-216-456-00 | METAL OXIDE | 820 | 5% | 2W F |
| R413 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R414 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R421 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R422 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R431 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R432 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R433 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R434 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R435 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R437 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R438 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R439 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R440 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R441 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R443 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R451 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R453 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R454 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R455 | 1-260-076-11 | CARBON | 10 | 5% | 1/2W (EE, CIS) |
| R471 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R472 | 1-260-091-11 | CARBON | 220 | 5% | 1/2W |
| R501 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R502 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R503 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R504 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R505 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R507 | 1-247-897-11 | CARBON | 560K | 5% | 1/4W |
| R508 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R511 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W (EE, CIS, E) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

# MAIN | MOTOR (SLIDE) | MOTOR (TURN)

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R512 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W(E) |
| R512 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W (EE, CIS) |
| R521 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R524 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R526 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R527 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R528 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R529 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R530 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R531 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R532 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R533 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R534 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R535 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R536 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R537 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R538 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R539 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R540 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R541 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R542 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R543 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R544 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R545 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R546 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R547 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R548 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R549 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R550 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R551 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R552 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R553 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R554 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R555 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R556 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R557 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R558 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R559 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R561 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R562 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R563 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R564 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R565 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R566 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R567 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R571 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R572 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R576 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R577 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R901 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R902 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R903 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R904 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R905 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R906 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R907 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R908 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R909 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R911 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R912 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R913 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R914 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R915 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R920 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/6W |
| R921 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/6W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-238-600-11 | RES, ADJ, CARBON 10K | | | |
| RV351 | 1-238-600-11 | RES, ADJ, CARBON 10K | | | |
| | | < RELAY > | | | |
| RY401 | 1-755-141-11 | RELAY | | | |
| RY402 | 1-755-141-11 | RELAY | | | |
| | | < TERMINAL > | | | |
| TM401 | 1-537-240-31 | TERMINAL BOARD (CHECKER PIN) | | | (SPEAKER) |
| | | < VIBRATOR > | | | |
| X501 | 1-760-489-11 | VIBRATOR, CERAMIC (5MHz) | | | |
| X502 | 1-567-098-41 | VIBRATOR, CRYSTAL (32.768kHz) | | | |
| ********** | | | | | |
| * | 1-658-578-11 | MOTOR (SLIDE) BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C801 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C804 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C805 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| * CN801 | 1-568-947-11 | PIN, CONNECTOR 9P | | | |
| | | < DIODE > | | | |
| D801 | 8-719-921-48 | DIODE MTZJ-T-72-5.6C | | | |
| D804 | 8-719-911-19 | DIODE 1SS119 | | | |
| D805 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | < IC > | | | |
| IC801 | 8-759-274-09 | IC BA6286N | | | |
| | | < RESISTOR > | | | |
| R801 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| | | < SWITCH > | | | |
| S801 | 1-762-527-11 | SWITCH, ROTARY (OPEN/CLOSE DET) | | | |
| ********** | | | | | |
| * | 1-658-577-11 | MOTOR (TURN) BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C701 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C702 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C705 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| | | < CONNECTOR > | | | |
| CN703 | 1-750-413-11 | CONNECTOR, FFC/FPC 8P | | | |
| CN704 | 1-506-469-11 | PIN, CONNECTOR 4P | | | |
| | | < DIODE > | | | |
| D701 | 8-719-983-66 | DIODE MTZJ-T-72-3.6B | | | |
| | | < IC > | | | |
| IC701 | 8-759-633-65 | IC M54641L | | | |
| | | < RESISTOR > | | | |
| R706 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R707 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| ********** | | | | | |
| * | A-4407-170-A | PANEL BOARD, COMPLETE (EE, CIS) | | | |
| * | A-4407-171-A | PANEL BOARD, COMPLETE (EA) | | | |
| * | A-4407-172-A | PANEL BOARD, COMPLETE (E, MY, SP) | | | |
| | | ********** | | | |
| * | 4-949-935-21 | CUSHION (FL) | | | |
| * | 4-996-724-01 | HOLDER, FL TUBE | | | |
| | | < CAPACITOR > | | | |
| C601 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C602 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C603 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C604 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C605 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C606 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C607 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C608 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C609 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C610 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C611 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C612 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C613 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C614 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C615 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C616 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C617 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C618 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C619 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C620 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C621 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C625 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C626 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C627 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C628 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C629 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C630 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C631 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C632 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C633 | 1-162-303-11 | CERAMIC | 0.0033uF | 30% | 16V |
| C634 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C635 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C636 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C648 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C649 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C749 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C752 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C753 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C754 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C755 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C756 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C757 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C758 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C759 | 1-126-956-00 | ELECT | 0.1uF | 20% | 50V |
| C760 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C761 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C762 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C764 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| * CN601 | 1-568-856-11 | SOCKET, CONNECTOR 13P | | | |
| | | < DIODE > | | | |
| D602 | 8-719-986-73 | DIODE RB441Q | | | |
| D610 | 8-719-063-93 | LED SLR325VC-N-T32 (ENTER/NEXT) | | | |
| D612 | 8-719-057-97 | LED SEL5923A-TP15 (GROOVE) | | | |
| D613 | 8-719-063-93 | LED SLR325VC-N-T32 (JOG) | | | |
| D614 | 8-719-064-65 | LED SELU5723C-TP15 (DJ MIX) | | | |
| D615 | 8-719-064-65 | LED SELU5723C-TP15 (DJ MIX) | | | |
| D616 | 8-719-063-93 | LED SLR325VC-N-T32 (NON-STOP) | | | |
| D617 | 8-719-057-97 | LED SEL5923A-TP15 (+, ▶▶) | | | |
| D618 | 8-719-057-97 | LED SEL5923A-TP15 (–, ◀◀) | | | |
| D620 | 8-719-063-93 | LED SLR325VC-N-T32 (EFFECT) | | | |
| D621 | 8-719-056-13 | LED SML79423C-TP15 (CD, ▶II) | | | |
| D622 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE B, ▶) | | | |
| D623 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE B, ◀) | | | |
| D624 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE A, ▶) | | | |
| D625 | 8-719-058-03 | LED SEL5423E-TP15 (TAPE A, ◀) | | | |
| D651 | 8-719-063-93 | LED SLR325VC-N-T32 (● REC) | | | |
| D652 | 8-719-057-97 | LED SEL5923A-TP15 (II PAUSE) | | | |
| | | < LEAD > | | | |
| EL2 | 1-690-880-51 | LEAD (WITH CONNECTOR) | | | |
| | | < FERRITE BEAD > | | | |
| FB601 | 1-410-397-21 | FERRITE BEAD INDUCTOR | | | |
| | | < FLUORESCENT INDICATOR TUBE > | | | |
| FL601 | 1-517-731-11 | INDICATOR TUBE, FLUORESCENT | | | |
| | | < IC > | | | |
| IC601 | 8-759-496-12 | IC TMP87CM74AF-6671 | | | |
| IC602 | 8-749-011-05 | IC GP1U28X | | | |
| IC603 | 8-759-495-25 | IC BA3833F-E2 | | | |
| IC750 | 8-759-634-51 | IC M5218AP | | | |

# PANEL

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < JACK > | | | |
| J751 | 1-784-224-11 | JACK (LARGE TYPE) (MIX MIC) | | | |
| | | < COIL > | | | |
| L601 | 1-410-509-11 | INDUCTOR 10uH | | | |
| | | < TRANSISTOR > | | | |
| Q601 | 8-729-118-00 | TRANSISTOR 2SB1116-L | | | |
| Q602 | 8-729-118-00 | TRANSISTOR 2SB1116-L | | | |
| Q603 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | | | |
| Q604 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q607 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q608 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q609 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q610 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q618 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q620 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| Q621 | 8-729-029-68 | TRANSISTOR DTC114TSA | | | |
| | | < RESISTOR > | | | |
| R601 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R602 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R604 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R605 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R606 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R607 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R608 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R609 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R610 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R611 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R612 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R613 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R614 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R615 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R616 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R618 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R619 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R620 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R621 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R622 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R623 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R624 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R625 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R626 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R627 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R628 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R629 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R630 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R631 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R632 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R633 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R634 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R636 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R637 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R638 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R639 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R640 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R641 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R642 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R643 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R649 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R650 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R651 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R652 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R653 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R654 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R655 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R661 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R662 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R663 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R664 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R665 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R666 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R667 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R668 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R669 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R670 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R671 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R672 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R673 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R674 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R675 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R676 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R677 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R678 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R679 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R683 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R684 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R685 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| R725 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R726 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R727 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R728 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R729 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R730 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R731 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R732 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R733 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R742 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R743 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R750 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R751 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R752 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R753 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R754 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R755 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R756 | 1-247-885-00 | CARBON | 180K | 5% | 1/4W |
| R757 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV750 | 1-225-574-11 | RES, VAR, CARBON 50K (MIC LEVEL) | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < SWITCH > | |
| S601 | 1-473-534-11 | ENCODER, ROTARY (⏮⟷⏭, DJ MIX (JOG)) | |
| S602 | 1-473-392-11 | ENCODER, ROTARY (VOLUME) | |
| S604 | 1-762-875-21 | SWITCH, KEYBOARD (EFFECT) | |
| S605 | 1-762-875-21 | SWITCH, KEYBOARD (SURROUND) | |
| S606 | 1-762-875-21 | SWITCH, KEYBOARD (KARAOKE PON/MPX) | |
| S607 | 1-762-875-21 | SWITCH, KEYBOARD (■) | |
| S608 | 1-762-875-21 | SWITCH, KEYBOARD (TIMER SELECT) | |
| S609 | 1-762-875-21 | SWITCH, KEYBOARD (CLOCK/TIMER SET) | |
| S610 | 1-762-875-21 | SWITCH, KEYBOARD (DISPLAY/DEMO) | |
| S611 | 1-762-875-21 | SWITCH, KEYBOARD (FILE SELECT) | |
| S612 | 1-762-875-21 | SWITCH, KEYBOARD (GEQ CONTROL) | |
| S613 | 1-762-875-21 | SWITCH, KEYBOARD (P FILE MEMORY) | |
| S614 | 1-762-875-21 | SWITCH, KEYBOARD (FUNCTION) | |
| S615 | 1-762-875-21 | SWITCH, KEYBOARD (EDIT, DIRECTION) | |
| S616 | 1-762-875-21 | SWITCH, KEYBOARD (PLAY MODE, DOLBY NR) | |
| S617 | 1-762-875-21 | SWITCH, KEYBOARD (REPEAT) | |
| S618 | 1-762-875-21 | SWITCH, KEYBOARD (LOOP) | |
| S619 | 1-762-875-21 | SWITCH, KEYBOARD (FLASH) | |
| S620 | 1-762-875-21 | SWITCH, KEYBOARD (NON-STOP) | |
| S621 | 1-762-875-21 | SWITCH, KEYBOARD (–, ◀◀) | |
| S622 | 1-762-875-21 | SWITCH, KEYBOARD (ENTER/NEXT) | |
| S623 | 1-762-875-21 | SWITCH, KEYBOARD (+, ▶▶) | |
| S624 | 1-762-875-21 | SWITCH, KEYBOARD (DBFB) | |
| S625 | 1-762-875-21 | SWITCH, KEYBOARD (GROOVE) | |
| S631 | 1-762-875-21 | SWITCH, KEYBOARD (TUNER, BAND) | |
| S632 | 1-762-875-21 | SWITCH, KEYBOARD (CD, ▶II) | |
| S633 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE B, ▶) | |
| S634 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE B, ◀) | |
| S635 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE A, ▶) | |
| S636 | 1-762-875-21 | SWITCH, KEYBOARD (TAPE A, ◀) | |
| S656 | 1-762-875-21 | SWITCH, KEYBOARD (● REC) | |
| S657 | 1-762-875-21 | SWITCH, KEYBOARD (II PAUSE) | |
| S658 | 1-762-875-21 | SWITCH, KEYBOARD (HI-DUB) | |
| S659 | 1-762-875-21 | SWITCH, KEYBOARD (CD SYNC) | |
| | | < VIBRATOR > | |
| X601 | 1-579-952-21 | VIBRATOR, CERAMIC (8MHz) | |
| ********** | | | |
| * | 1-658-576-11 | SENSOR BOARD | |
| | | ********** | |
| | | <PHOTO INTERRUPTER/REFLECTOR > | |
| IC702 | 8-749-924-18 | PHOTO INTERRUPTER RPI-1391 | |
| IC703 | 8-749-924-30 | PHOTO REFLECTOR GP2S28 | |
| | | < TRANSISTOR > | |
| Q701 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| | | < RESISTOR > | |
| R701 | 1-249-416-11 | CARBON 820 5% 1/4W | |
| R702 | 1-249-407-11 | CARBON 150 5% 1/4W | |
| ********** | | | |

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| | A-4303-587-A | TCB BOARD, COMPLETE (EE, CIS) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C2 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C3 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C5 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C6 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C7 | 1-101-004-00 | CERAMIC | 0.01uF | | 50V |
| C8 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C9 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C10 | 1-162-306-11 | CERAMIC CHIP | 0.01uF | 30% | 16V |
| C16 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C19 | 1-163-249-11 | CERAMIC CHIP | 82PF | 5% | 50V |
| C21 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C22 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C23 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C24 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C26 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C28 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C29 | 1-162-306-11 | CERAMIC | 0.01uF | 30% | 16V |
| C30 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C31 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C32 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C33 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C34 | 1-163-229-11 | CERAMIC CHIP | 12PF | 5% | 50V |
| C35 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C36 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C37 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C39 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C40 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C41 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C42 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C43 | 1-163-031-00 | CERAMIC CHIP | 0.01uF | | 50V |
| C44 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C45 | 1-163-077-00 | CERAMIC CHIP | 0.1uF | | 50V |
| C46 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C47 | 1-126-301-11 | ELECT | 1.0uF | 20% | 50V |
| C48 | 1-163-059-00 | CERAMIC CHIP | 0.01uF | | 50V |
| C49 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C50 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C51 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C52 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C53 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C54 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C55 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C56 | 1-104-396-11 | ELECT | 10uF | 20% | 16V |
| C57 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 10% | 50V |
| C58 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 10% | 50V |
| C59 | 1-163-989-11 | CERAMIC CHIP | 33000PF | 10% | 25V |
| C60 | 1-163-989-11 | CERAMIC CHIP | 33000PF | 10% | 25V |
| C61 | 1-126-301-11 | ELECT | 1.0uF | 20% | 50V |
| C62 | 1-163-033-00 | CERAMIC CHIP | 0.022uF | | 50V |
| C63 | 1-163-139-00 | CERAMIC CHIP | 820PF | 5% | 50V |
| C65 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C66 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C67 | 1-126-162-11 | ELECT | 3.3uF | 20% | 50V |

## TCB

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C68 | 1-163-031-11 | CERAMIC | 0.01uF | | 50V |
| C69 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C71 | 1-162-306-11 | CERAMIC | 0.01uF | 30% | 16V |
| C72 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C73 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C74 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C1701 | 1-162-294-31 | CERAMIC CHIP | 1000PF | 10% | 50V |
| C1702 | 1-130-014-00 | FILM | 470PF | 5% | 50V |
| C1703 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C1704 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C1705 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C1706 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1707 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C1710 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C1711 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C1712 | 1-130-736-11 | FILM | 0.01uF | 5% | 50V |
| C1713 | 1-130-736-11 | FILM | 0.01uF | 5% | 50V |
| C1714 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1715 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1716 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1719 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C1720 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C1723 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C1724 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C1725 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C1726 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1727 | 1-126-960-11 | ELECT | 1.0uF | 20% | 50V |
| C1728 | 1-126-966-11 | ELECT | 33uF | 20% | 16V |
| | | < CERAMIC FILTER > | | | |
| CF1 | 1-567-389-11 | FILTER, CERAMIC | | | |
| CF3 | 1-567-389-11 | FILTER, CERAMIC | | | |
| | | < CONNECTOR > | | | |
| * CN1 | 1-568-834-11 | SOCKET, CONNECTOR 15P | | | |
| | | < TRIMMER > | | | |
| CT1701 | 1-141-444-11 | CAP, CERAMIC TRIMMER 50PF | | | |
| CT1701 | 1-141-569-11 | CAP, ADJ 50PF | | | |
| | | < DIODE > | | | |
| D21 | 8-719-976-99 | DIODE DTZ5.1B | | | |
| D41 | 8-719-016-74 | DIODE 1SS352 | | | |
| D42 | 8-719-016-74 | DIODE 1SS352 | | | |
| D43 | 8-719-016-74 | DIODE 1SS352 | | | |
| D1701 | 8-719-016-74 | DIODE 1SS352 | | | |
| D1702 | 8-719-016-74 | DIODE 1SS352 | | | |
| D1703 | 8-719-991-19 | DIODE 1SS133T | | | |
| D1704 | 8-719-016-74 | DIODE 1SS352 | | | |
| | | < FRONT-END > | | | |
| FE1 | 1-693-335-11 | FRONT END (3 GANG) | | | |
| FE2 | 1-233-514-11 | ENCAPSULATED COMPONENT | | | |
| | | < IC > | | | |
| IC21 | 8-759-288-54 | IC LC72130 | | | |
| IC41 | 8-759-495-82 | IC LA1838 | | | |
| IC1701 | 8-759-063-04 | IC IR3R42 | | | |
| IC1702 | 8-759-140-53 | IC uPD4053BC | | | |
| | | < IFT > | | | |
| IFT41 | 1-431-974-11 | TRANSFORMER, IF (CERAMIC FILTER) | | | |
| | | < SHORT > | | | |
| JR2 | 1-216-295-OO | SHORT | 0 | | |
| JR6 | 1-216-295-OO | SHORT | 0 | | |
| JR8 | 1-216-295-OO | SHORT | 0 | | |
| JR9 | 1-216-295-OO | SHORT | 0 | | |
| JR12 | 1-216-296-OO | SHORT | 0 | | |
| JR46 | 1-216-296-00 | SHORT | 0 | | |
| JR47 | 1-216-295-00 | SHORT | 0 | | |
| JR48 | 1-216-295-00 | SHORT | 0 | | |
| JR49 | 1-216-296-00 | SHORT | 0 | | |
| JR51 | 1-216-295-00 | SHORT | 0 | | |
| JR52 | 1-216-295-00 | SHORT | 0 | | |
| JR53 | 1-216-296-00 | SHORT | 0 | | |
| JR54 | 1-216-295-00 | SHORT | 0 | | |
| JR1701 | 1-216-295-00 | SHORT | 0 | | |
| JR1702 | 1-216-295-00 | SHORT | 0 | | |
| JR1703 | 1-216-295-00 | SHORT | 0 | | |
| JR1704 | 1-216-295-00 | SHORT | 0 | | |
| JR1705 | 1-216-295-00 | SHORT | 0 | | |
| | | < COIL > | | | |
| L3 | 1-410-521-11 | MICRO INDUCTOR | 100uH | | |
| L41 | 1-407-500-00 | MICRO INDUCTOR | 4.7mH | | |
| L1701 | 1-409-497-11 | COIL (FILTER) | | | |
| | | < LOW-PASS FILTER > | | | |
| LPF41 | 1-239-845-11 | FILTER, LOW PASS | | | |
| LPF42 | 1-239-845-11 | FILTER, LOW PASS | | | |
| | | < TRANSISTOR > | | | |
| Q1 | 8-729-201-27 | TRANSISTOR 2SC2715Y | | | |
| Q2 | 8-729-201-27 | TRANSISTOR 2SC2715Y | | | |
| Q3 | 8-729-201-27 | TRANSISTOR 2SC2715Y | | | |
| Q4 | 8-729-201-27 | TRANSISTOR 2SC2715Y | | | |
| Q5 | 8-729-424-08 | TRANSISTOR MUN2111 | | | |
| Q9 | 8-729-216-22 | TRANSISTOR 2SA812-M5M6 | | | |
| Q11 | 8-729-421-22 | TRANSISTOR MUN2211 | | | |
| Q12 | 8-729-421-22 | TRANSISTOR MUN2211 | | | |
| Q13 | 8-729-421-22 | TRANSISTOR MUN2211 | | | |
| Q14 | 8-729-421-22 | TRANSISTOR MUN2211 | | | |
| Q1701 | 8-729-424-08 | TRANSISTOR MUN2111 | | | |
| Q1702 | 8-729-027-43 | TRANSISTOR RT1N141C | | | |
| Q1703 | 8-729-421-22 | TRANSISTOR MUN2211 | | | |
| | | < RESISTOR > | | | |
| R1 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R2 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R3 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R5 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R6 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R7 | 1-216-049-11 | METAL CHIP | 1K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R8 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R9 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R10 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R11 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R12 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R13 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R14 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R18 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R19 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R21 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R22 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R23 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R24 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R25 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R26 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R27 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R28 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R29 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R30 | 1-216-186-00 | METAL CHIP | 330 | 5% | 1/8W |
| R31 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R32 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R33 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R34 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R35 | 1-216-214-00 | METAL CHIP | 4.7K | 5% | 1/8W |
| R36 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R37 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R38 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R39 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R41 | 1-216-013-00 | METAL CHIP | 33 | 5% | 1/10W |
| R42 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R43 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R44 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R45 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R46 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R47 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R48 | 1-249-417-11 | CARBON | 1.0K | 5% | 1/4W |
| R49 | 1-216-295-00 | SHORT | 0 | | |
| R50 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R51 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R52 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R53 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/4W |
| R54 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R55 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R57 | 1-216-162-00 | METAL CHIP | 33 | 5% | 1/8W |
| R58 | 1-216-013-00 | METAL CHIP | 33 | 5% | 1/10W |
| R91 | 1-216-295-00 | SHORT | 0 | | |
| R92 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1701 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R1702 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R1703 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R1704 | 1-216-076-00 | METAL CHIP | 13K | 5% | 1/10W |
| R1705 | 1-216-049-11 | METAL CHIP | 1K | 5% | 1/10W |
| R1706 | 1-216-049-11 | METAL CHIP | 1K | 5% | 1/10W |
| R1707 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1708 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R1709 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R1710 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1711 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1714 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R1715 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R1716 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1717 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1718 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1719 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1720 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R1721 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |

< VARIABLE RESISTOR >

| | | |
|---|---|---|
| RV41 | 1-238-600-11 | RES, ADJ, CARBON 10K |
| RV42 | 1-238-600-11 | RES, ADJ, CARBON 10K |
| RV1701 | 1-238-601-11 | RES, ADJ, CARBON 22K |
| RV1702 | 1-238-599-11 | RES, ADJ, CARBON 4.7K |

< TERMINAL >

| | | |
|---|---|---|
| TM1 | 1-537-488-11 | TERMINAL BOARD (ANT) (ANTENNA) |

< TEST PIN>

| | | |
|---|---|---|
| TP1701 | 1-536-354-00 | PIN, POST |
| TP1702 | 1-536-354-00 | PIN, POST |

< VIBRATOR >

| | | |
|---|---|---|
| X21 | 1-760-549-31 | VIBRATOR, CRYSTAL (4.5MHz) |
| X41 | 1-767-825-21 | FILTER, CERAMIC (10.7MHz) |
| X42 | 1-527-981-00 | FILTER, CERAMIC (450kHz) |

**********

| | | |
|---|---|---|
| * | 1-668-212-11 | TRANSFORMER BOARD |
| | | ********** |
| | 1-533-217-31 | HOLDER, FUSE |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |

< CONNECTOR >

| | | |
|---|---|---|
| CN11 | 1-564-523-11 | PLUG, CONNECTOR 8P |
| * CN12 | 1-564-519-11 | PLUG, CONNECTOR 4P |
| CN13 | 1-564-321-00 | PIN, CONNECTOR 2P |

< FUSE >

| | | |
|---|---|---|
| ⚠F11 | 1-532-464-31 | FUSE T2.5AL/250V |
| ⚠F12 | 1-532-465-31 | FUSE T3.15AL/250V (EXCEPT EE, CIS) |
| ⚠F13 | 1-532-505-31 | FUSE T5AL/250V (EXCEPT EE, CIS) |

< RESISTOR >

| | | | | | |
|---|---|---|---|---|---|
| ⚠R11 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (EE, CIS) |
| ⚠R11 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT EE, CIS) |
| ⚠R12 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (EE, CIS) |
| ⚠R12 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT EE, CIS) |
| ⚠R13 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (EE, CIS) |
| ⚠R13 | 1-219-120-11 | FUSIBLE | 0.15 | 5% | 1/4W F (EXCEPT EE, CIS) |
| ⚠R14 | 1-219-119-81 | FUSIBLE | 0.1 | 5% | 1/4W F (EE, CIS) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## TRANSFORMER

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| ⚠R14 | 1-219-120-11 | FUSIBLE 0.15 5% 1/4W F | (EXCEPT EE, CIS) |
| | | < SWITCH > | |
| ⚠S11 | 1-771-291-11 | SWITCH, POWER (VOLTAGE SELECTOR) | (EXCEPT EE, CIS) |
| | | < TRANSFORMER > | |
| ⚠T11 | 1-431-662-11 | TRANSFORMER, POWER (EE, CIS) | |
| ⚠T11 | 1-431-663-11 | TRANSFORMER, POWER (EXCEPT EE, CIS) | |
| ********** | | | |
| | | MISCELLANEOUS | |
| | | ********** | |
| 6 | 1-769-984-11 | WIRE (FLAT TYPE) (13 CORE) (23cm) | |
| 10 | 1-773-048-11 | WIRE (FLAT TYPE) (17 CORE) | |
| 11 | 1-773-025-11 | WIRE (FLAT TYPE) (15 CORE) (33cm) | |
| 105 | 1-783-570-11 | WIRE (FLAT TYPE) (19 CORE) | |
| 107 | 1-693-420-11 | TUNER (FM/AM) (E) | |
| 107 | 1-693-421-11 | TUNER (FM/AM) (EA, MY, SP) | |
| 108 | 1-769-976-11 | WIRE (FLAT TYPE) (13 CORE) (14cm) (E) | |
| 108 | 1-773-008-11 | WIRE (FLAT TYPE) (15 CORE) (14cm) | (EXCEPT E) |
| ⚠113 | 1-575-651-11 | CORD, POWER (EE, CIS, EA, MY, SP) | |
| ⚠113 | 1-575-653-11 | CORD, POWER (E) | |
| ⚠114 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (EA, MY, SP) | |
| 257 | 1-452-925-21 | MAGNET ASSY | |
| 258 | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE) | |
| ⚠301 | 8-820-020-02 | OPTICAL PICK-UP KSS-213D/Q-NP | |
| 302 | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE) | |
| HP101 | A-2056-681-A | DECK (A) ASSY, HEAD (230AWR1) | |
| HP101 | A-2056-683-A | DECK (A) ASSY, HEAD (230PWR1) | |
| HRPE101 | A-2056-682-A | DECK (B) ASSY, HEAD (230AWR1) | |
| HRPE101 | A-2056-684-A | DECK (B) ASSY, HEAD (230PWR1) | |
| M1 | A-2004-628-A | MOTOR ASSY, CAPSTAN | |
| M101 | X-4917-523-4 | MOTOR ASSY (SPINDLE) | |
| M102 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| M401 | 1-763-072-11 | FAN, D.C. | |
| M701 | A-4672-004-A | MOTOR ASSY (TURN) | |
| M801 | A-4672-004-A | MOTOR ASSY (SLIDE) | |
| S811 | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET) | |
| ⚠T11 | 1-431-662-11 | TRANSFORMER, POWER (EE, CIS) | |
| ⚠T11 | 1-431-663-11 | TRANSFORMER, POWER (EXCEPT EE, CIS) | |
| ********** | | | |
| | | ********** | |
| | | HARDWARE LIST | |
| | | ********** | |
| #1 | 7-685-872-09 | SCREW +BVTT 3X8 (S) | |
| #2 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |
| #3 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |
| #4 | 7-685-650-79 | SCREW +BVTP 3X16 TYPE2 N-S | |
| #5 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| #6 | 7-685-880-09 | SCREW +BVTT 4X6 (S) | |
| #7 | 7-685-851-04 | SCREW +BVTT 2X4 (S) | |
| #8 | 7-621-775-10 | SCREW +B 2.6X4 | |
| #9 | 7-621-255-15 | SCREW +P 2X3 | |
| #10 | 7-685-850-04 | SCREW +BVTT 2X3 (S) | |
| #11 | 7-628-254-15 | SCREW +PS 2.6X6 | |
| #12 | 7-628-254-50 | SCREW +PS 2.6X16 | |
| ********** | | | |
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ********** | |
| | 1-475-572-11 | COMMANDER, STANDARD (RM-SR5) | |
| | 1-501-374-11 | ANTENNA, LOOP | |
| | 1-501-659-41 | ANTENNA (FM) (EXCEPT EE, CIS) | |
| | 1-501-804-11 | ANTENNA (FM) (EE, CIS) | |
| | 3-862-005-11 | MANUAL, INSTRUCTION (ENGLISH) | |
| | 3-862-005-21 | MANUAL, INSTRUCTION (FRENCH, SPANISH) | (E, EA, MY, SP) |
| | 3-862-005-41 | MANUAL, INSTRUCTION (CHINESE) | (EA, MY, SP) |
| | 3-862-005-51 | MANUAL, INSTRUCTION (ARABIC) (EA) | |
| | 3-862-005-91 | MANUAL, INSTRUCTION (POLISH, RUSSIAN) | (EE, CIS) |
| | 4-991-151-21 | COVER, BATTERY (for RM-SR5) | |

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